Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
November 2010

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

PASZA
Peace AirShed Zone Association

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January 3, 2011

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RE: Peace Airshed Zone Association (PASZA) – November 2010 Ambient Air Report

Enclosed is the PASZA Ambient Monitoring Network Report for the month of **November 2010**.

Continuous Monitoring: **Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Bonanza (portable) and Valleyview.**

Included in this report is a summary of the monthly continuous monitoring, detailed hourly average reports and multipoint calibration reports of all instruments. Operational summaries can be found on the "Monthly Summary" and "Continuous Monitoring" pages of the report.

During the month of October the following events were noted:

Henry Pirker Station:

- The measured ambient air quality was within the Alberta Ambient Air Quality Objectives (AAAQO) for the Henry Pirker station.
- All analyzers and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of November.

Evergreen Park Station:

- The measured ambient air quality was within the AAAQO for the Evergreen Park station, with the exception of the $PM_{2.5}$ which had twenty-seven (27) 1-hour exceedences of the AAAQG and three (3) 24-hour exceedences of the AAAQO:
  - **Nov.1 17:00 93 µg/m^3 AENV Reference #241701**
  - **Nov.1 18:00 90 µg/m^3 AENV Reference #241701**
  - **Nov.2 09:00 87 µg/m^3 AENV Reference #241728**
  - **Nov.2 10:00 158 µg/m^3 AENV Reference #241728**
  - **Nov.2 11:00 125 µg/m^3 AENV Reference #241728**
  - **Nov.2 12:00 180 µg/m^3 AENV Reference #241728**
  - **Nov.2 13:00 391 µg/m^3 AENV Reference #241728**
  - **Nov.2 14:00 418 µg/m^3 AENV Reference #241728**
  - **Nov.2 15:00 274 µg/m^3 AENV Reference #241728**
  - **Nov.2 16:00 83 µg/m^3 AENV Reference #241728**
  - **Nov.2 17:00 81 µg/m^3 AENV Reference #241728**
  - **Nov.4 17:00 82 µg/m^3 AENV Reference #241831**
  - **Nov.5 08:00 123µg/m^3 AENV Reference #241839**
  - **Nov.5 09:00 83 µg/m^3 AENV Reference #241839**
  - **Nov.5 11:00 157 µg/m^3 AENV Reference #241839**
  - **Nov.5 12:00 242 µg/m^3 AENV Reference #241839**
  - **Nov.5 13:00 185 µg/m^3 AENV Reference #241839**

- **Nov.5 14:00 250 µg/m^3 AENV Reference #241839**
- **Nov.5 15:00 176 µg/m^3 AENV Reference #241839**
- **Nov.5 16:00 249µg/m^3 AENV Reference #241839**
- **Nov.5 17:00 117µg/m^3 AENV Reference #241839**
- **Nov.5 18:00 115µg/m^3 AENV Reference #241839**
- **Nov.12 14:00 107 µg/m^3 AENV Reference #242037**
- **Nov.13 13:00 88 µg/m^3 AENV Reference #242055**
- **Nov.13 14:00 120 µg/m^3 AENV Reference #242055**
- **Nov.24 18:00 151 µg/m^3 AENV Reference #242345**
- **Nov.24 19:00 119 µg/m^3 AENV Reference #242345**
- **Nov.2- 24-hour 33.5 µg/m^3 AENV Reference #241728**
- **Nov.5- 24-hour 81.7 µg/m^3 AENV Reference #241839**
- **Nov.24- 24-hour 32.3 µg/m^3 AENV Reference #242938**

- All analyzers / sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of November.

Smoky Heights Station:

- The measured ambient air quality was within the AAAQO for the Smoky Heights station.
- All analyzers / sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of November.

Beaverlodge Station:

- The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- All analyzers / sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of November.

Portable – Bonanza Station:

- The measured ambient air quality was within the AAAQO for the Bonanza station.
- All analyzers / sensors at the Bonanza station had an operational uptime greater than 90% for the month of November, with the exception of the O_3 analyzer – **Alberta Environment Reference #242929.**

Valleyview Station:

- The measured ambient air quality was within the AAAQO for the Valleyview station.
- All analyzers / sensors at the Valleyview station had an operational uptime greater than 90% for the month of November.

Passive Monitoring - 43 Stations throughout the PASZA zone:

There were four duplicate sites sampled in the month of November: Sylvester, Shaftesbury, Guy, and Karr Creek. The O_3 sample at Eaglesham was reported missing at time of collection; therefore there are no results for said sample. The passive sample analyses were performed by MAXXAM Analytics Inc.

A summary of the passive data collected are reported as follows.

- Monthly average concentrations for SO_2 passives ranged from 0.0 ppb to 0.5 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.9 ppb to 10.3 ppb, with a mean of 2.2 ppb.

- Monthly average concentrations for O_3 passives ranged from 16.4 ppb to 52.7 ppb, with a mean of 25.0 ppb.

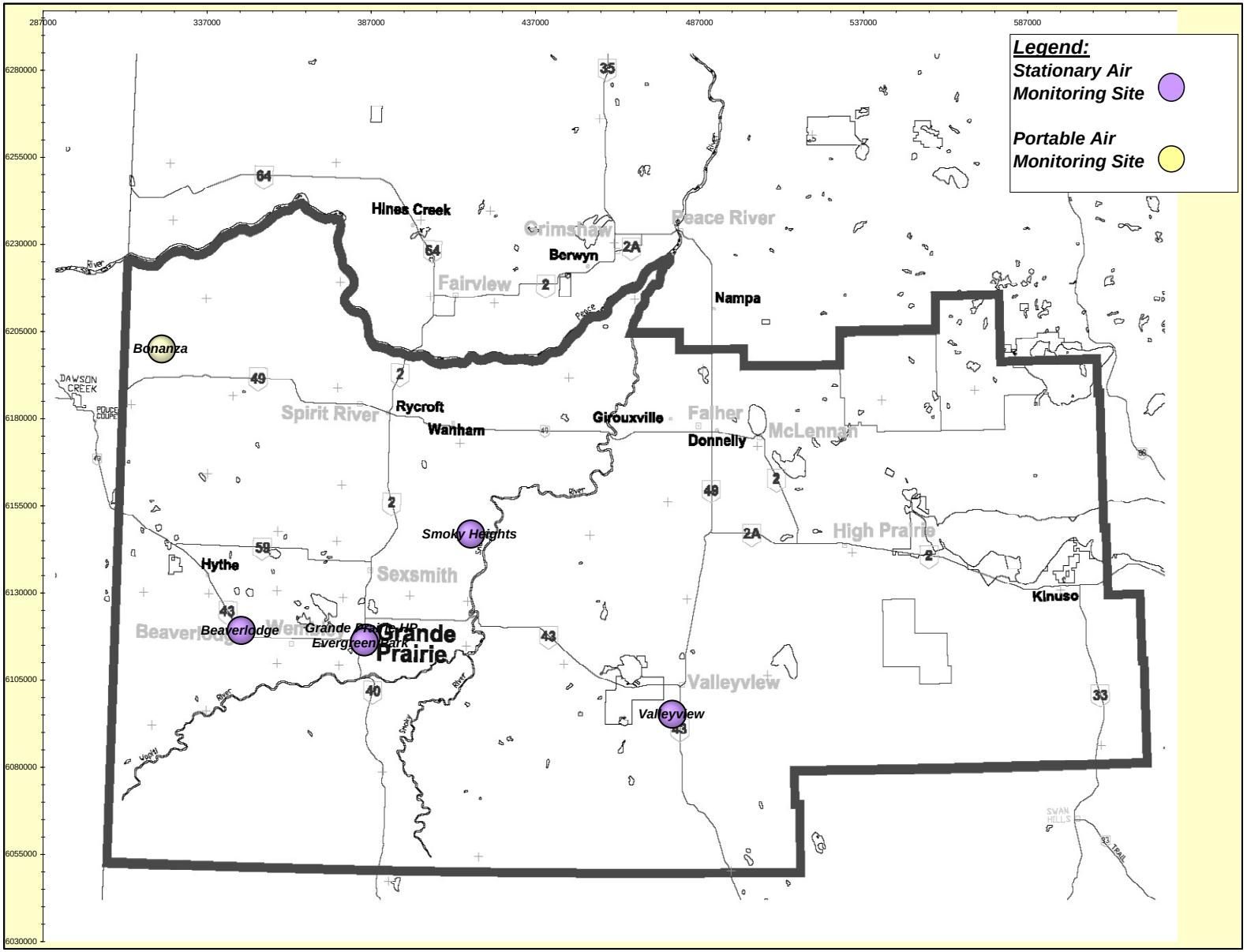
If you have any questions or concerns, please contact Shelly Pruden, PASZA Program Manager at 780.833.4343 or 780.882.4071.

On Behalf of the,
Peace Airshed Zone Association

Shelly Pruden
Program Manager

Sharon Whiteley, B.Sc..
FOCUS AQM Data Specialist

Location of PASZA Continuous Monitoring Stations



PASZA Monthly Continuous Data Summary

Nov-2010	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives 1-hr	Objectives 24-hr	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Conc	Day	Conc	Day	Operational Time (%)
SO_2 (ppb)	172	48	Henry Pirker	0.4	0	0	2.3	Nov-26 22:00	1.0	Nov-18	100.0%
SO_2 (ppb)	172	48	Evergreen Park	0.4	0	0	13.1	Nov-02 17:00	2.7	Nov-05	99.4%
SO_2 (ppb)	172	48	Smoky Heights	0.6	0	0	12.3	Nov-27 18:00	3.2	Nov-27	99.7%
SO_2 (ppb)	172	48	Beaverlodge	0.3	0	0	0.3	Nov-18 12:00	0.8	Nov-18	100.0%
SO_2 (ppb)	172	48	Portable-Bonanza	0.4	0	0	6.8	Nov-16 07:00	1.7	Nov-27	99.6%
SO_2 (ppb)	172	48	Valleyview	0.6	0	0	10.7	Nov-12 12:00	2.7	Nov-05	99.9%
NO (ppb)			Henry Pirker	13.2	0	0	150.0	Nov-03 08:00	43.7	Nov-09	100.0%
NO_2 (ppb)	212	106	Henry Pirker	15.6	0	0	45.9	Nov-03 08:00	30.5	Nov-24	100.0%
NO_X (ppb)			Henry Pirker	28.9	0	0	195.8	Nov-03 08:00	67.6	Nov-09	100.0%
NO (ppb)			Beaverlodge	1.1	0	0	21.3	Nov-04 14:00	7.3	Nov-30	100.0%
NO_2 (ppb)	212	106	Beaverlodge	5.5	0	0	25.9	Nov-30 19:00	18.5	Nov-30	100.0%
NO_X (ppb)			Beaverlodge	6.5	0	0	42.6	Nov-26 12:00	25.5	Nov-30	100.0%
NO (ppb)			Portable-Bonanza	0.8	0	0	16.4	Nov-29 12:00	6.1	Nov-29	98.8%
NO_2 (ppb)	212	106	Portable-Bonanza	3.3	0	0	19.3	Nov-29 04:00	10.8	Nov-29	98.8%
NO_X (ppb)			Portable-Bonanza	4.2	0	0	30.4	Nov-29 07:00	17.1	Nov-29	98.8%
O_3 (ppb)	82		Henry Pirker	15.2	0	-	38.3	Nov-01 23:00	32.9	Nov-02	100.0%
O_3 (ppb) - 8-hr			Henry Pirker		0				36.2	Nov-02	
O_3 (ppb)	82		Beaverlodge	24.6	0	-	39.6	Nov-01 17:00	35.3	Nov-02	100.0%
O_3 (ppb) - 8-hr			Beaverlodge		0				37.3	Nov-01	
O_3 (ppb)	82		Portable-Bonanza	25.4	0	-	39.8	Nov-22 03:00	32.6	Nov-22	81.3%
O_3 (ppb) - 8-hr			Portable-Bonanza		0				37.1	Nov-22	
CO (ppm)	13		Henry Pirker	0.26	0	-	1.6	Nov-03 09:00	0.5	Nov-08	100.0%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.8	Nov-03	
THC (ppm)			Henry Pirker	2.28	-	-	6.4	Nov-09 10:00	2.8	Nov-23	100.0%
TRS (ppb)			Henry Pirker	0.3	-	-	1.0	Nov-24 09:00	0.6	Nov-24	100.0%
TRS (ppb)			Evergreen Park	0.6	-	-	2.1	Nov-24 18:00	0.8	Nov-29	99.4%
TRS (ppb)			Smoky Heights	0.3	-	-	0.7	Nov-27 23:00	0.5	Nov-27	99.7%
TRS (ppb)			Portable-Bonanza	0.4	-	-	1.0	Nov-07 20:00	0.6	Nov-27	99.6%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	2.4	Nov-20 17:00	0.3	Nov-20	100.0%

PASZA Monthly Continuous Data Summary – continued

Nov-2010	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
PM2.5 (µg/m3)	80	30	Henry Pirker	9.2	0	0	58.0	Nov-24 20:00	20.2	Nov-24	100.0%
PM2.5 (µg/m3)	80	30	Evergreen Park	15.9	**27**	**3**	420.8	Nov-02 11:00	133.5	Nov-02	95.7%
PM2.5 (µg/m3)	80	30	Smoky Heights	4.7	0	0	43.4	Nov-29 21:00	13.1	Nov-20	96.4%
PM2.5 (µg/m3)	80	30	Beaverlodge	7.6	0	0	32.7	Nov-21 10:00	21.1	Nov-30	100.0%
RH (%)			Henry Pirker	68.3	-	-	88.6	Nov-15 05:00	81.0	Nov-07	100.0%
RH (%)			Evergreen Park	72.5	-	-	95.8	Nov-15 06:00	88.0	Nov-28	99.4%
RH (%)			Beaverlodge	71.0	-	-	95.3	Nov-15 03:00	87.6	Nov-07	100.0%
RH (%)			Valleyview	70.6	-	-	96.4	Nov-15 07:00	89.4	Nov-27	99.9%
SR (W/m^2)			Henry Pirker	30.4	-	-	283.0	Nov-02 13:00	63.2	Nov-02	100.0%
Temp (°C)			Henry Pirker	-6.0	-	-	12.0	Nov-01 14:00	6.5	Nov-02	100.0%
Temp (°C)			Evergreen Park	-5.8	-	-	11.9	Nov-01 14:00	7.1	Nov-02	99.4%
Temp (°C)			Smoky Heights	-6.6	-	-	11.8	Nov-01 16:00	6.2	Nov-02	99.7%
Temp (°C)			Beaverlodge	-5.0	-	-	11.3	Nov-01 15:00	6.7	Nov-02	100.0%
Temp (°C)			Portable-Bonanza	-5.4	-	-	12.9	Nov-03 15:00	6.7	Nov-02	99.6%
Temp (°C)			Valleyview	-5.6	-	-	16.4	Nov-04 15:00	8.8	Nov-04	99.9%
WSPD s (km/hr)			Henry Pirker	8.4	-	-	41.0	Nov-25 04:00	20.4	Nov-25	100.0%
WSPD s (km/hr)			Evergreen Park	5.5	-	-	30.0	Nov-02 11:00	17.0	Nov-25	99.4%
WSPD s (km/hr)			Smoky Heights	11.9	-	-	56.0	Nov-02 14:00	28.8	Nov-02	99.7%
WSPD s (km/hr)			Beaverlodge	10.3	-	-	55.0	Nov-02 12:00	32.7	Nov-02	100.0%
WSPD s (km/hr)			Portable-Bonanza	12.7	-	-	52.0	Nov-02 14:00	31.2	Nov-25	99.6%
WSPD s (km/hr)			Valleyview	5.5	-	-	28.0	Nov-02 14:00	14.1	Nov-02	99.2%
WSPD v (km/hr)			Henry Pirker	2.6	-	-	41.0	Nov-25 04:00	19.4	Nov-25	100.0%
WSPD v (km/hr)			Evergreen Park	2.2	-	-	30.0	Nov-02 11:00	16.2	Nov-25	99.4%
WSPD v (km/hr)			Smoky Heights	5.5	-	-	56.0	Nov-02 14:00	27.5	Nov-02	99.7%
WSPD v (km/hr)			Beaverlodge	2.7	-	-	54.0	Nov-02 12:00	32.1	Nov-02	100.0%
WSPD v (km/hr)			Portable-Bonanza	5.7	-	-	52.0	Nov-02 14:00	30.3	Nov-25	99.6%
WSPD v (km/hr)			Valleyview	1.3	-	-	28.0	Nov-02 14:00	12.2	Nov-02	99.2%
WDIR			Henry Pirker	W	-	-	-	-	-	-	100.0%
WDIR			Evergreen Park	W	-	-	-	-	-	-	99.4%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	99.7%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100.0%
WDIR			Portable-Bonanza	SW	-	-	-	-	-	-	99.6%
WDIR			Valleyview	WSW	-	-	-	-	-	-	99.2%

Continuous Network Equipment Summary

PASZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on November 2nd (TRS, CO & THC) and November 3rd (SO_2, NO_X & O_3).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	No operational issues observed.
TRS	TEI	45C/43C	Spans were outside target range from November 16th to 22nd due to a failing perm tube – a new perm tube was installed on November 22nd. Targets were reset November 25th after perm tube stabilized.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PASZA – Evergreen Park Station

General Station Issues

Routine monthly calibrations were performed on November 11th (SO_2 & TRS) and November 19th ($PM_{2.5}$). A power failure on November 26th resulted in four (4) hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed, other than above noted power failure.
TRS	TEI	43C	No operational issues observed, other than above noted power failure.
$PM_{2.5}$	R&P	1400AB	Thirteen (13) hours were flagged for baseline drift. Thirteen (13) hours were flagged invalid due to loading issues caused by adverse weather conditions. One (1) hour was flagged for maintenance (changed TEOM filter). Twenty-seven (27) 1-hour exceedences of the AAAQG and three (3) 24-hour exceedences of the AAAQO during the month of November.
ET	Met One/Gill	083D	No operational issues observed, other than above noted power failure.
RH	Met One/Gill		No operational issues observed, other than above noted power failure.
WS / WD	Met One/ Gill		No operational issues observed, other than above noted power failure.

PASZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on November 16th (TRS & SO_2). A DACS/communication error occurred on November 1st resulting in two (2) hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed, other than above noted DACS error.
TRS	TEI	43C	No operational issues observed, other than above noted DACS error.
$PM_{2.5}$	R&P	1400AB	Two (2) hours flagged regarding above noted DACS error. On November 15th after the filter change a power bump occurred which corrupted the TEOM software – twenty (20) hours were flagged invalid and four (4) hours were flagged for maintenance.
ET	Met One	083D	No operational issues observed, other than above noted DACS error.
WS / WD	Met One	010C/020C	No operational issues observed, other than above noted DACS error.

PASZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations were performed on November 9th (SO_2, O_3 & NO_X).

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	A second calibration was performed on November 10th to adjust the NOX concentration.
O_3	TEI	49C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

PASZA – Bonanza (Portable) Station

General Station Issues

Routine monthly calibrations were performed on November 4th (SO_2, TRS, NO_X & O_3). A power outage on November 28th resulted in two (2) hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43C	One (1) hour was flagged for maintenance (updating software), no operational issues observed other than above noted power outage.
TRS	TEI	43C	One (1) hour was flagged for maintenance (updating software), no operational issues observed other than above noted power outage.
NOx/NO/NO_2	TEI	42I	On November 4th one (1) hour was flagged for maintenance (updating software). Spans were outside the target from November 21st – 26th due to failing pump. On November 24th six (6) hours were flagged maintenance to replace pump and troubleshoot span issues. On November 26th perm tube was replaced and a third calibration was completed. As-Founds were done on November 30th to be used with the installation of spare O_3 analyzer.
O_3	TEI	49C	On November 17th analyzer failed due to bearings gone on internal pump, sixty-four (64) hours were flagged invalid - five hours were flagged for maintenance. Three (3) hours flagged maintenance to ensure pump stability. On November 24th analyzer fails (forty-nine (49) hours flagged invalid) and attempts to get running properly also fail - analyzer removed from service November 26th. A spare analyzer is installed and calibrated on November 30th. O_3 analyzer is less than 90% operational for month of November – AE Reference #242929.
ET	Met One		One (1) hour was flagged for maintenance (updating software), no operational issues observed other than above noted power outage.
WS / WD	Met One	010C/020C	One (1) hour was flagged for maintenance (updating software), no operational issues observed other than above noted power outage.

PASZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on November 18th (SO_2 & H_2S). New alumna tower was installed for meteorological system on November 18th.

Parameter	Make	Model	Notes
SO_2	TEI	43i	One (1) hour was flagged for maintenance (updating software), no operational issues observed.
H_2S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	One (1) hour was flagged for maintenance regarding new tower installation, no other operational issues observed.
RH	Gill	Met Pak 3	One (1) hour was flagged for maintenance regarding new tower installation, no other operational issues observed.
WS	Gill	Met Pak 3	Six (6) hours were flagged for maintenance regarding new tower installation, no other operational issues observed.
WD	Gill	Met Pak 3	Six (6) hours were flagged for maintenance regarding new tower installation, no other operational issues observed.

PASZA
Henry Pirker Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.3 ppb on Nov 26 22:00 Maximum Daily Average: 1.0 ppb on Nov 18

Minimum Value: 0 ppb on Nov 1 14:00 Minimum Daily Average: 0.1 ppb on Nov 5
Maximum Diurnal Average: 0.5 ppb at hour 11 Minimum Diurnal Average: 0.3 ppb at hour 2
Monthly Average: 0.39 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.3 Q_3 = 0.6 P_{90} = 0.8 P_{99} = 1.9

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	A	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
2-Nov	0	A	1	2	1	1	2	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.2
3-Nov	0	0	0	0	0	A	1	1	C	C	C	C	0	0	0	0	0	0	0	1	1	1	1	1	0.3	1.4
4-Nov	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.7	0.9
5-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
6-Nov	0	0	0	A	0	0	0	0	0	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0.4	1.8
7-Nov	0	0	A	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
8-Nov	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	1.0
9-Nov	A	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	0	0	A	0.3	0.8
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.4
11-Nov	0	0	0	0	0	0	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	A	0	0	0.3	2.2
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.4
13-Nov	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.6
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.5
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3
16-Nov	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0.3	0.7
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	1	0.2	0.7
18-Nov	1	0	1	1	2	2	2	2	2	2	2	1	1	0	A	0	0	1	1	0	1	1	1	0	1.0	2.1
19-Nov	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	0	1	0	1	1	1	0.5	0.8
20-Nov	0	0	0	0	0	0	0	0	1	1	1	1	A	1	1	0	0	0	0	1	1	1	0	0	0.5	1.0
21-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
22-Nov	0	0	0	0	1	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
23-Nov	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0.6	1.1
24-Nov	0	1	0	0	0	0	1	1	A	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	0.9	1.9
25-Nov	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.7
26-Nov	1	1	1	0	0	0	A	0	0	1	0	1	1	1	1	1	1	1	0	0	0	2	1	0	0.7	2.3
27-Nov	1	1	1	1	1	A	1	1	1	0	0	1	1	1	1	1	1	0	0	0	1	1	0	1	0.7	1.2
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.6	0.9
29-Nov	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0.4	0.9
30-Nov	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0.7	1.0
	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3	Diurnal Average	
	0.8	0.8	1.2	2.0	1.8	2.1	2.2	2.1	2.1	1.9	1.8	1.0	2.2	1.8	1.5	1.2	1.9	1.7	1.6	1.6	1.0	2.3	1.0	0.9	Diurnal Maximum	

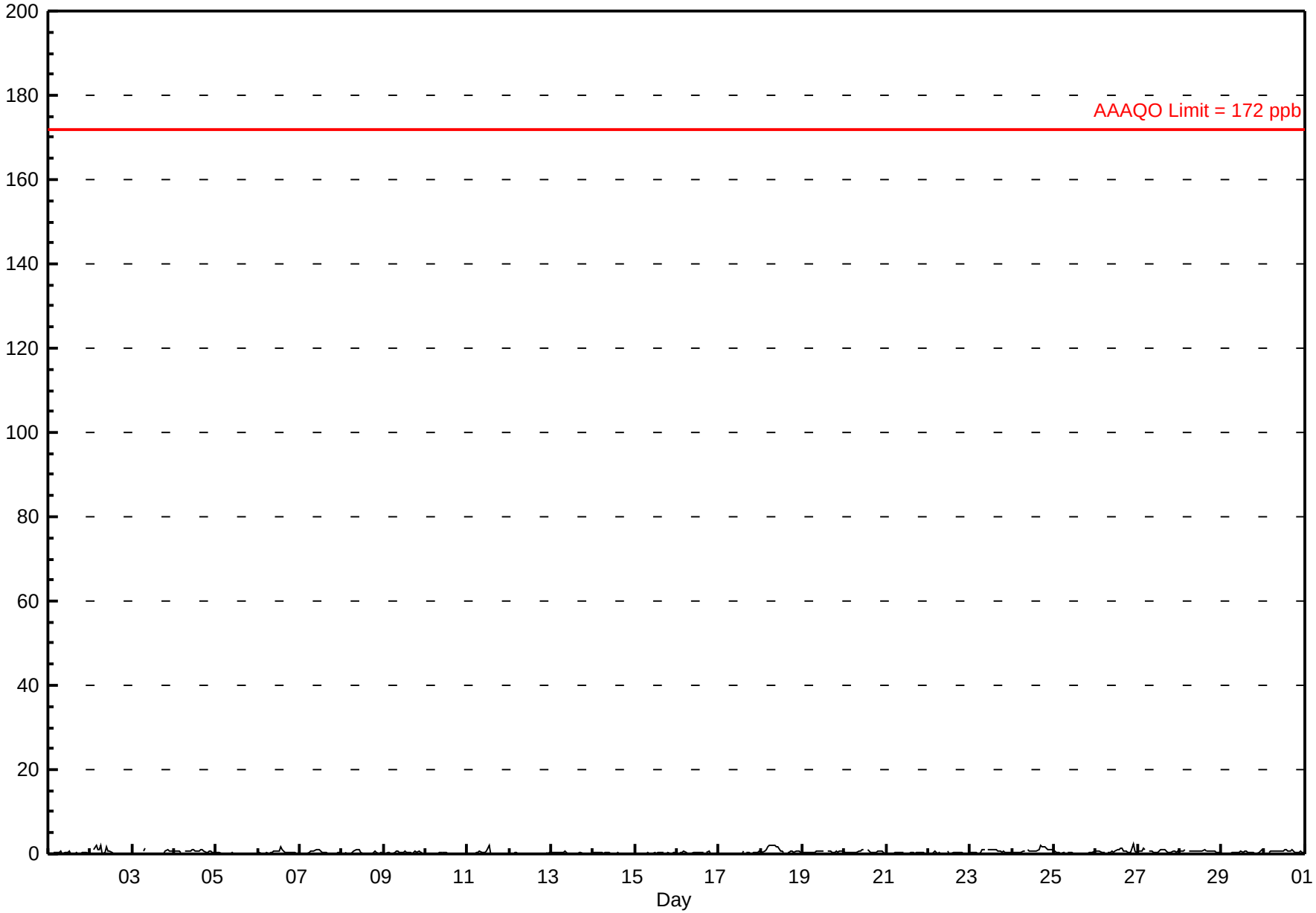
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - November 2010



PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - November 2010

Maximum Value: 8.5 ppb on Nov 11 13:00

Maximum Daily Average: 1.5 ppb on Nov 18

Minimum Value: 0 ppb on Nov 11 00:00

Minimum Daily Average: 0.3 ppb on Nov 5

Maximum Diurnal Average: 1.1 ppb at hour 13

Minimum Diurnal Average: 0.6 ppb at hour 2

Monthly Average: 0.80 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.3$ $Q_1 = 0.5$ Median = 0.7 $Q_3 = 1.0$ $P_{90} = 1.4$ $P_{99} = 2.9$

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	A	0	0	0	1	1	0	1	1	1	2	1	0	1	2	0	1	1	1	1	1	0	0.8	1.6
2-Nov	0	A	2	3	2	3	5	1	2	3	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1.1	4.6
3-Nov	0	0	0	0	0	A	1	2	C	C	C	C	0	0	0	0	0	0	1	1	1	1	1	1	0.5	2.0
4-Nov	1	1	1	1	1	A	1	1	1	1	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1.1	1.5
5-Nov	1	1	1	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	1.0
6-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	0.8	2.7
7-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.7	1.5
8-Nov	1	A	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0.8	1.5
9-Nov	A	0	0	0	0	0	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	A	0.8	1.3
10-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0.4	0.9
11-Nov	0	0	0	0	0	0	1	1	1	1	0	1	8	0	0	0	0	0	0	0	0	A	0	0	0.9	8.5
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	1	1	0.4	1.1
13-Nov	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	A	1	0	1	1	0.6	1.1
14-Nov	1	1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	1	A	0	1	1	1	0	0.5	0.7
15-Nov	1	1	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	A	0	1	1	0	0	2	0.6	1.7
16-Nov	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	2	1	1	1	0	1	0.7	1.7
17-Nov	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	A	1	1	1	1	1	1	1	1	0.5	1.1
18-Nov	1	1	1	2	2	4	3	3	3	3	3	1	1	1	A	1	1	1	1	1	1	1	1	1	1.5	3.7
19-Nov	1	0	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.3
20-Nov	1	1	0	0	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0.9	1.8
21-Nov	0	1	1	1	1	1	1	1	1	1	1	A	0	0	1	0	0	0	1	1	1	1	0	0	0.6	1.0
22-Nov	0	0	0	1	1	0	1	0	0	0	A	1	0	1	1	0	1	1	0	1	0	0	0	0	0.6	1.2
23-Nov	0	0	1	0	0	0	1	2	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	1.8
24-Nov	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	3	3	2	2	2	1	1	1	1	1.5	3.5
25-Nov	1	1	0	0	0	0	1	A	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0.6	1.1
26-Nov	1	1	1	1	1	0	A	0	1	1	1	1	1	1	3	2	1	1	1	1	1	4	1	1	1.2	4.0
27-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
29-Nov	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0.7	1.4
30-Nov	1	1	A	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1.0	1.6
	0.6	0.6	0.7	0.7	0.7	0.7	1.0	0.9	0.9	1.0	1.0	0.9	1.1	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	Diurnal Average	
	1.4	1.1	2.1	2.6	2.4	3.7	4.6	2.7	2.7	2.8	3.3	1.5	8.5	2.7	2.8	3.0	3.5	2.5	2.0	2.5	1.5	4.0	1.3	1.7	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

FOCUS AIR QUALITY MONITORING

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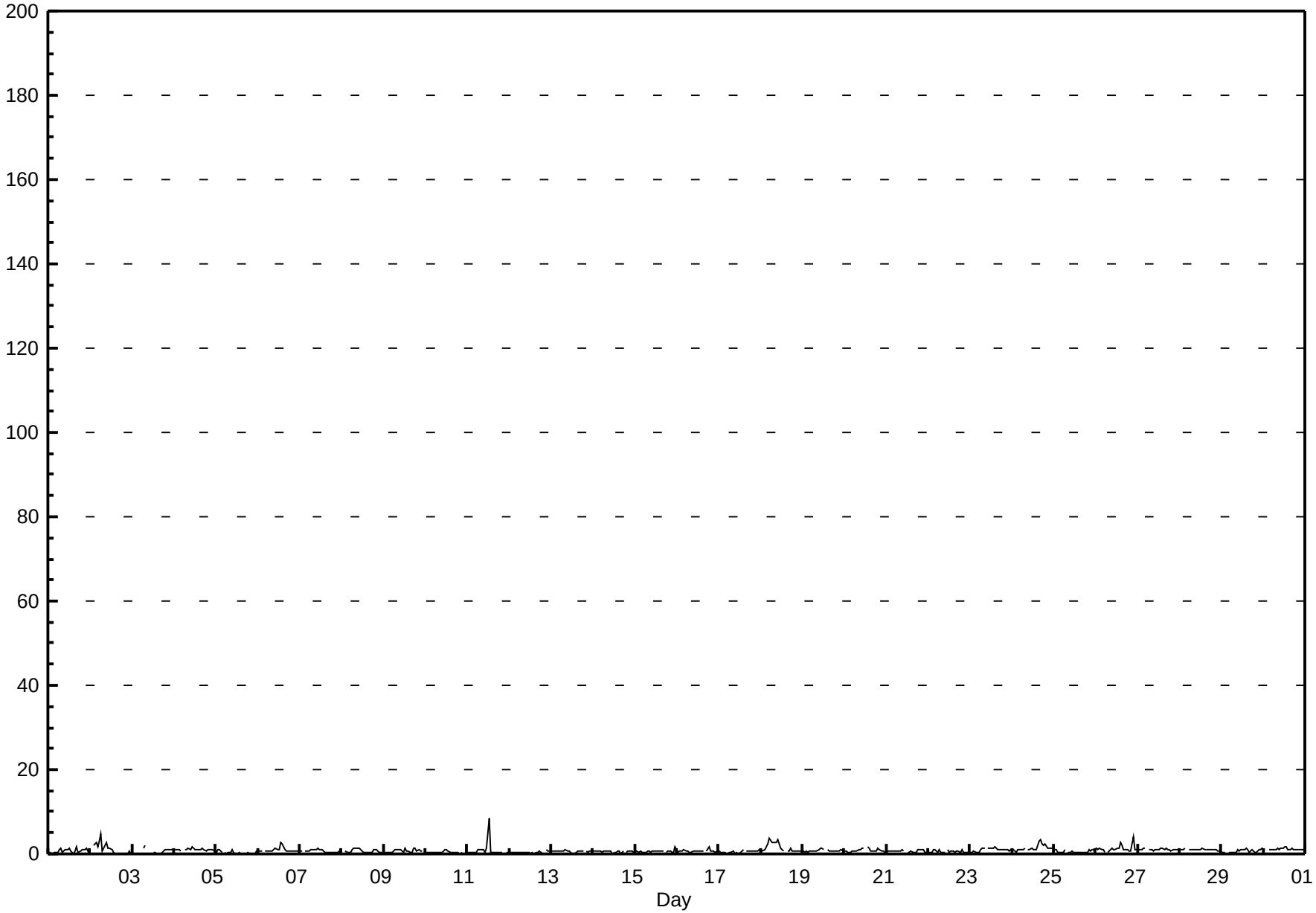
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - November 2010



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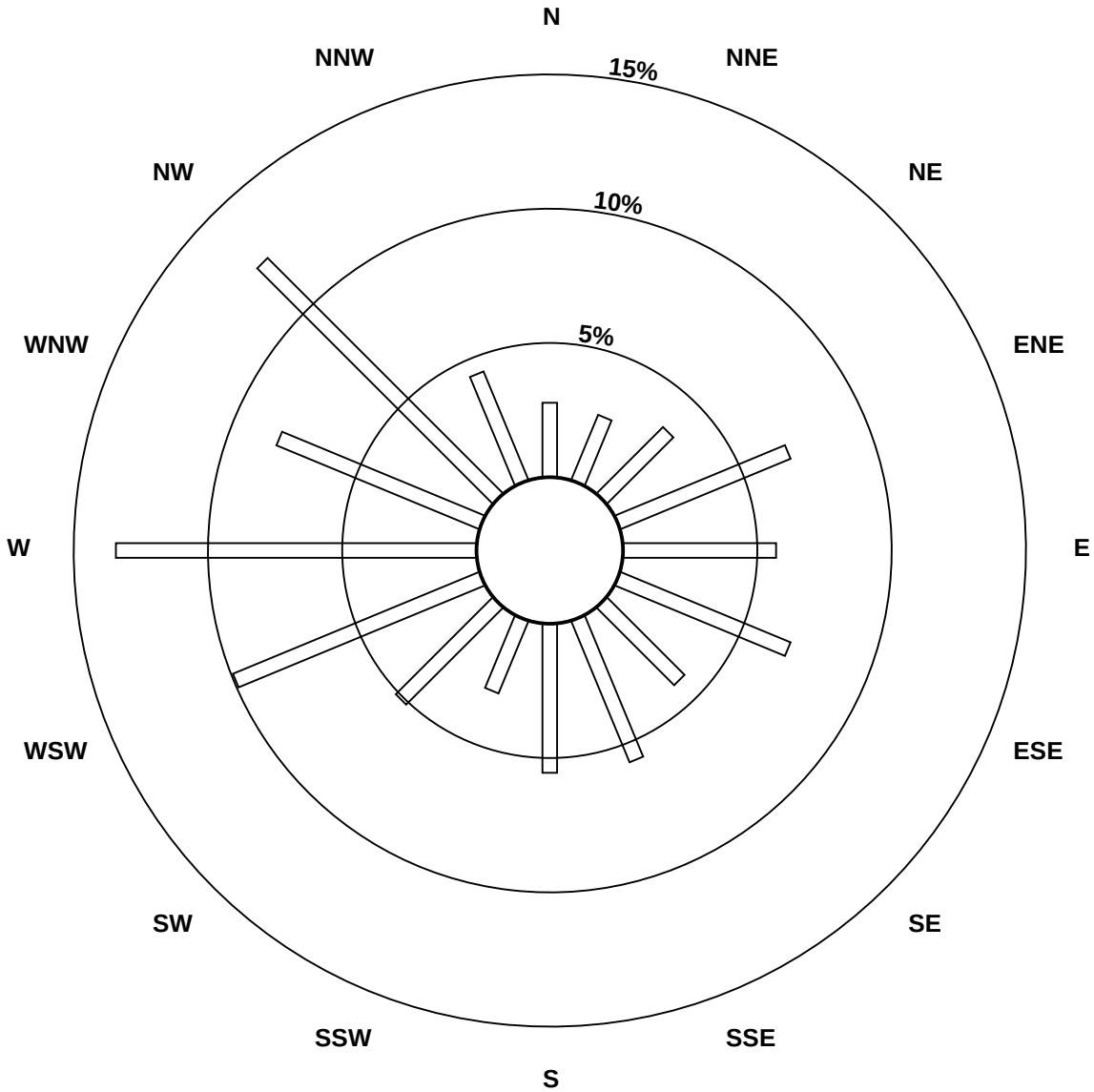
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - November 2010



Pollutant Classes (ppb)

- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

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Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.0 ppb on Nov 3 09:00 Maximum Daily Average: 0.6 ppb on Nov 24

Minimum Value: 0 ppb on Nov 22 07:00 Minimum Daily Average: 0.1 ppb on Nov 22
Maximum Diurnal Average: 0.4 ppb at hour 9 Minimum Diurnal Average: 0.3 ppb at hour 2
Monthly Average: 0.32 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.6$ $P_{99} = 0.9$

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	A	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
2-Nov	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0.2	0.3
3-Nov	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
4-Nov	0	0	0	0	0	A	1	1	1	1	0	0	0	0	1	1	1	1	0	1	1	1	1	0	0.5	0.8
5-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
6-Nov	0	0	0	A	0	0	1	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.7
7-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	0.6
8-Nov	1	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0.5	1.0
9-Nov	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0	A	0.4	0.9
10-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.6
11-Nov	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0.4	0.9
12-Nov	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.6
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.5
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.3
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.5
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
21-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
22-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-Nov	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.5
24-Nov	0	0	0	0	0	0	0	0	A	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0.6	1.0
25-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
26-Nov	1	0	0	0	0	0	A	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
27-Nov	0	0	0	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
28-Nov	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0.4	0.6
29-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
30-Nov	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0.5	0.7
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	Diurnal Average	
	0.6	0.4	0.6	0.5	0.6	0.5	0.7	1.0	1.0	0.8	0.9	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.9	1.0	0.8	1.0	0.8	0.6	Diurnal Maximum	

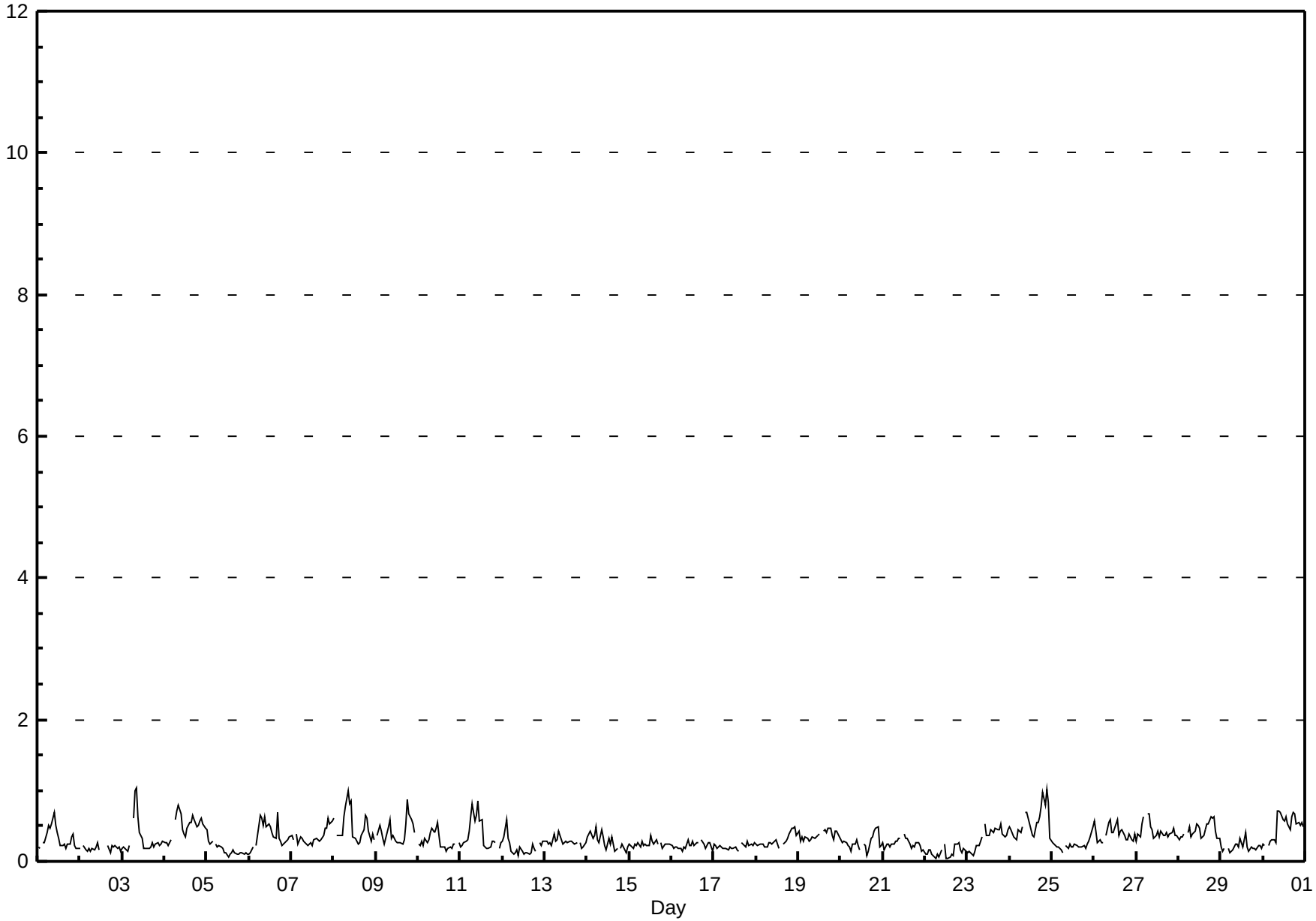
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2010

Maximum Value: 1.7 ppb on Nov 3 09:00

Maximum Daily Average: 1.0 ppb on Nov 24

Minimum Value: 0 ppb on Nov 6 00:00

Minimum Daily Average: 0.5 ppb on Nov 22

Maximum Diurnal Average: 0.8 ppb at hour 9

Minimum Diurnal Average: 0.6 ppb at hour 2

Monthly Average: 0.73 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 1.0$ $P_{99} = 1.4$

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.7	1.1
2-Nov	1	A	1	0	1	1	1	0	1	1	1	0	C	C	C	C	1	0	1	0	1	1	1	1	0.6	0.8
3-Nov	1	0	1	0	1	A	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
4-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
5-Nov	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0	1	1	0	0.6	0.8
6-Nov	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
7-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
8-Nov	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
9-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	0.9	1.6
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.1
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.4
12-Nov	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	0	0	1	1	0	A	1	1	1	0.6	1.1
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.1
14-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	0.7	1.3
15-Nov	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	0	1	0.6	0.9
16-Nov	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	A	1	1	0	1	1	1	1	0.6	0.9
17-Nov	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	0.6	0.8
18-Nov	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.1
20-Nov	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	0.7	1.0
21-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
22-Nov	1	0	1	1	1	0	0	1	0	1	A	1	1	0	0	0	0	1	0	1	1	0	1	1	0.5	0.8
23-Nov	1	1	1	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
24-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
25-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
26-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
27-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
29-Nov	1	1	1	A	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.8
30-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7	Diurnal Average	
	1.1	1.2	1.0	0.9	1.1	1.0	1.4	1.6	1.7	1.3	1.4	1.3	1.4	1.1	1.0	1.1	1.4	1.1	1.6	1.4	1.2	1.4	1.3	1.0	Diurnal Maximum	

C - Calibration

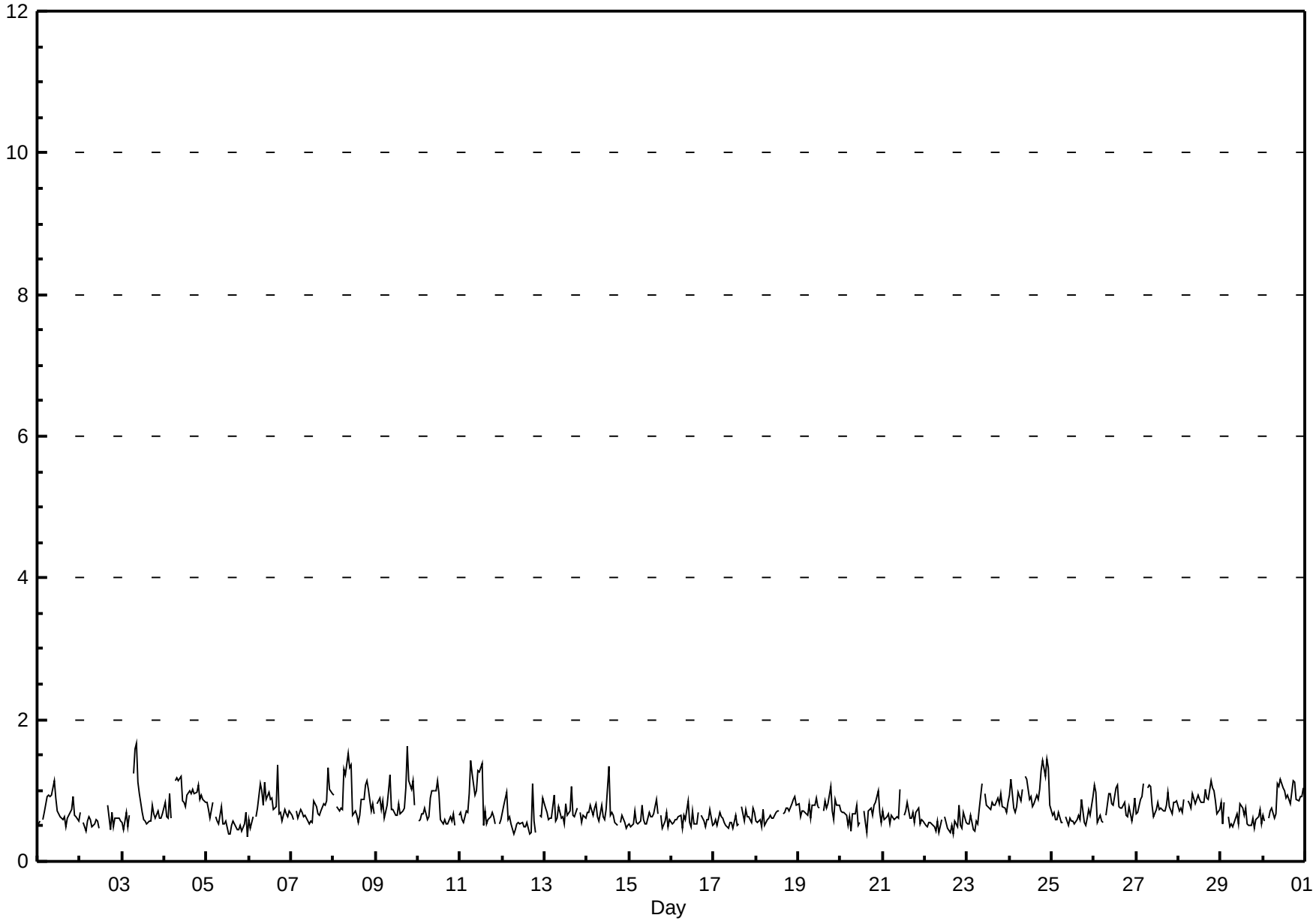
A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2010



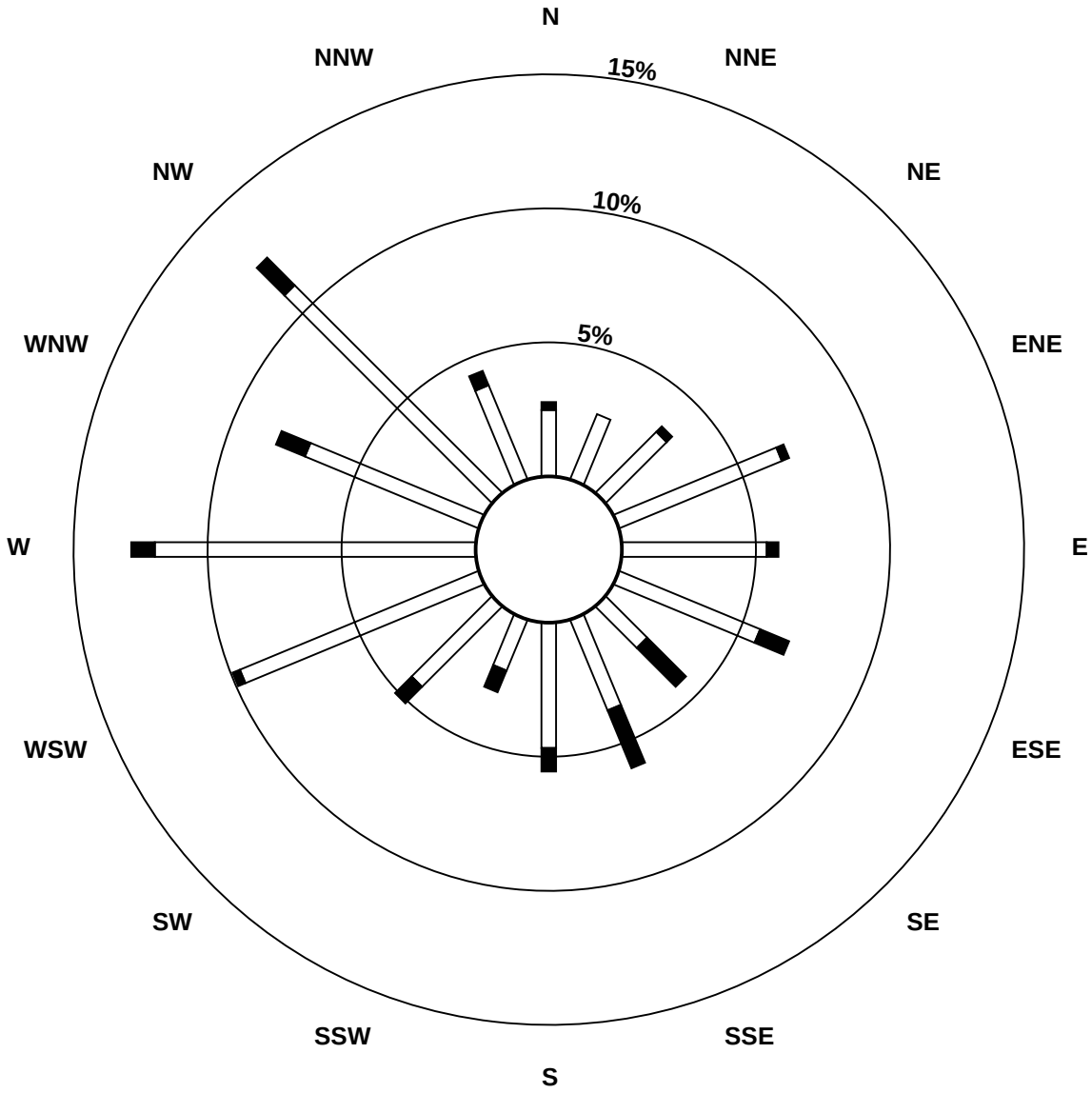
FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - November 2010



Pollutant Classes (ppb)

- 0 - 1
- 1 - 2
- 2 - 3
- 4 - 10
- > 10

FOCUS AIR QUALITY MONITORING

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Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 45.9 ppb on Nov 3 08:00 Maximum Daily Average: 30.5 ppb on Nov 24

Minimum Value: 1 ppb on Nov 5 03:00 Minimum Daily Average: 4.2 ppb on Nov 17
Maximum Diurnal Average: 20.8 ppb at hour 8 Minimum Diurnal Average: 11.6 ppb at hour 15
Monthly Average: 15.64 ppb Percentiles: P_1 = 2.1 P_{10} = 3.4 Q_1 = 6.2 Median = 14.4 Q_3 = 23.9 P_{90} = 29.9 P_{99} = 39.5

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	10	4	A	9	17	20	24	24	27	35	28	20	10	5	5	6	7	7	10	28	35	8	4	4	15.1	34.7
2-Nov	5	A	6	3	4	8	7	6	6	5	3	3	2	2	2	3	3	4	5	5	6	4	7	3	4.5	7.7
3-Nov	2	1	1	3	9	A	40	46	C	C	C	C	C	C	4	9	10	11	10	7	6	6	7	6	--	45.9
4-Nov	6	6	7	11	10	A	25	25	29	25	20	18	20	21	24	25	25	21	18	15	16	18	17	14	18.1	28.9
5-Nov	13	5	1	1	A	5	6	10	10	8	4	4	4	5	5	6	7	9	9	8	11	9	8	7	6.7	13.3
6-Nov	11	19	24	A	27	28	27	29	30	30	32	26	21	19	13	12	23	24	20	18	21	16	15	13	21.6	32.2
7-Nov	12	11	A	7	7	7	7	9	9	7	7	6	7	7	8	9	9	14	16	16	16	16	17	16	10.4	16.6
8-Nov	18	A	13	8	8	9	19	26	28	28	34	20	13	12	16	21	22	27	30	31	30	29	29	27	21.7	34.4
9-Nov	A	24	29	26	23	22	24	24	24	16	19	18	14	12	17	17	23	40	41	37	30	25	20	A	23.8	40.8
10-Nov	15	13	13	12	13	11	14	17	19	16	20	21	14	7	5	7	12	18	14	14	5	6	A	5	12.6	20.9
11-Nov	6	11	15	22	24	28	29	35	31	28	22	15	15	10	9	10	13	18	25	21	22	A	17	21	19.4	34.6
12-Nov	23	21	18	14	11	8	7	6	5	4	4	3	3	3	3	5	8	20	16	14	A	22	11	24	11.0	24.0
13-Nov	28	25	14	18	19	18	29	35	36	13	6	4	3	3	3	3	4	6	7	A	8	5	10	19	13.6	35.7
14-Nov	25	30	28	20	15	15	20	23	22	25	4	2	4	10	14	10	3	2	A	3	2	2	3	5	12.5	30.1
15-Nov	6	4	6	7	8	10	8	4	6	6	3	4	4	4	6	12	5	A	4	4	3	3	3	2	5.3	11.5
16-Nov	2	3	3	3	3	3	3	8	15	11	4	3	5	5	4	6	A	7	7	5	4	4	3	3	4.9	14.6
17-Nov	3	3	3	2	3	3	5	6	7	5	4	4	4	4	5	A	6	6	5	4	4	4	3	3	4.2	6.6
18-Nov	3	3	3	3	4	4	5	6	8	8	8	6	5	7	A	4	14	24	32	36	35	35	32	26	13.5	36.1
19-Nov	24	17	23	19	22	24	22	25	24	19	18	14	12	A	15	19	27	32	31	28	19	27	22	23	22.1	32.1
20-Nov	18	12	15	16	12	12	17	24	27	26	20	13	A	14	11	8	17	37	38	39	36	30	23	19	21.0	38.8
21-Nov	17	16	17	16	14	12	11	22	22	14	14	A	11	11	6	4	4	5	7	10	9	6	4	3	11.1	22.4
22-Nov	3	3	3	3	4	5	10	12	13	15	A	5	3	6	8	12	19	32	35	36	25	20	19	23	13.6	36.0
23-Nov	22	21	17	14	21	29	29	25	34	A	31	19	24	32	35	33	39	40	37	38	32	29	27	29	28.5	39.6
24-Nov	29	31	24	26	27	28	30	35	A	36	36	32	29	29	24	26	32	40	39	40	35	33	31	7	30.5	40.1
25-Nov	2	2	2	2	2	3	6	A	6	7	8	7	5	5	5	6	9	10	11	10	20	31	32	39	10.0	39.2
26-Nov	39	26	20	19	24	17	A	33	34	33	25	23	25	29	11	22	25	27	15	25	38	21	24	30	25.4	39.0
27-Nov	16	25	23	16	12	A	26	32	29	22	13	8	6	5	6	6	10	14	21	24	21	19	15	15	16.6	32.1
28-Nov	17	12	16	15	A	11	18	19	20	17	19	16	19	13	20	26	27	30	29	27	29	23	20	17	20.0	30.3
29-Nov	13	12	11	A	14	16	18	20	20	23	18	26	20	26	28	18	18	20	18	15	11	12	11	11	17.4	27.9
30-Nov	12	12	A	10	10	11	13	18	33	32	27	24	26	26	24	25	32	31	28	26	26	25	24	23	22.5	32.7
	13.8	13.4	13.1	11.7	13.0	13.6	17.2	20.8	20.5	18.3	16.1	13.0	11.8	11.8	11.6	12.6	15.7	19.9	19.9	20.2	19.1	16.8	15.8	15.1	Diurnal Average	
	39.0	31.0	28.5	26.0	26.7	28.8	40.0	45.9	35.7	35.8	36.1	32.0	29.4	32.2	34.5	33.1	39.2	39.8	40.8	40.1	37.7	34.9	32.5	39.2	Diurnal Maximum	

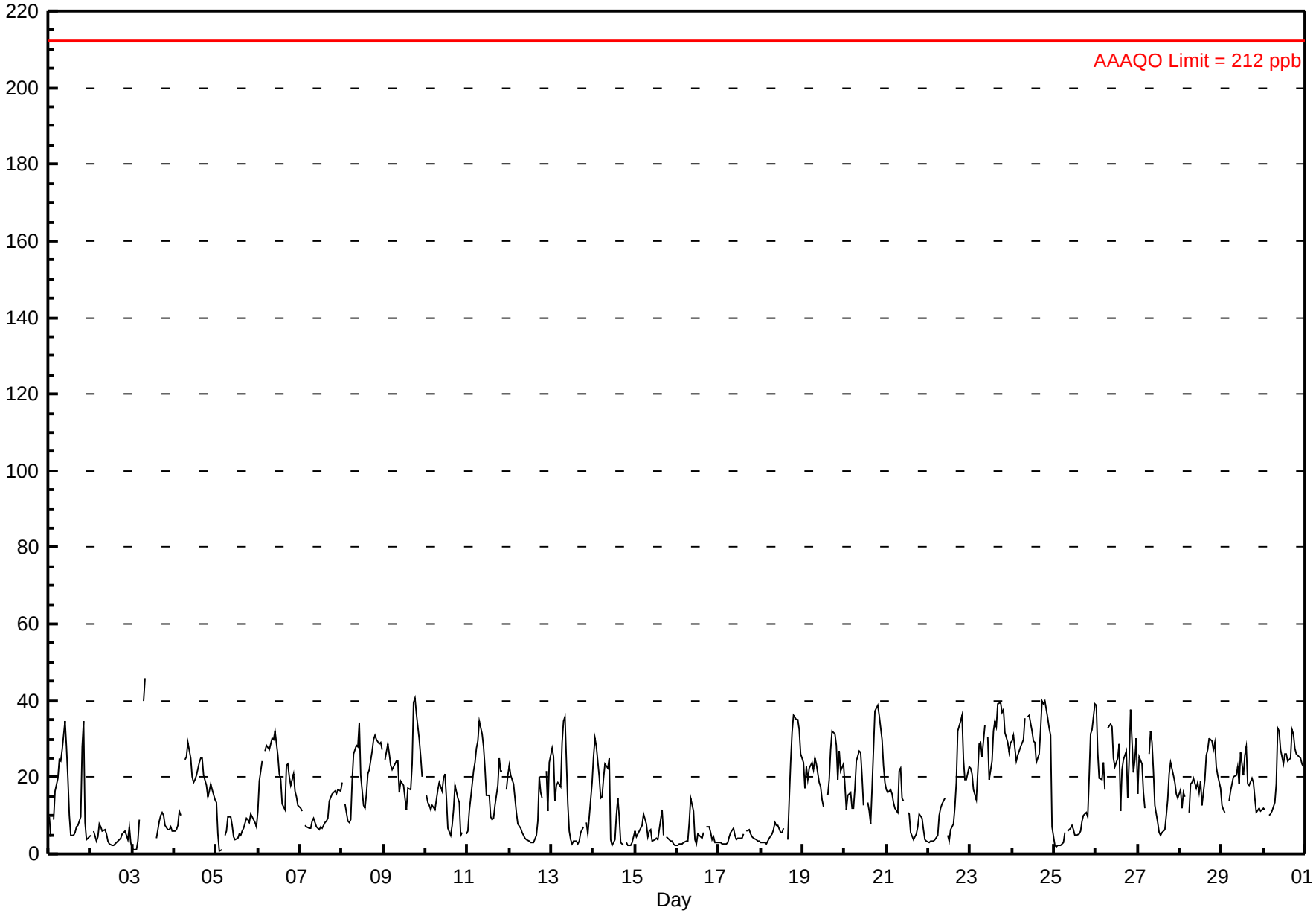
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb 24-hr 106 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - November 2010

Maximum Value: 63.0 ppb on Nov 8 07:00

Maximum Daily Average: 36.5 ppb on Nov 24

Minimum Value: 1 ppb on Nov 5 03:00

Minimum Daily Average: 6.7 ppb on Nov 17

Maximum Diurnal Average: 26.5 ppb at hour 8

Minimum Diurnal Average: 15.6 ppb at hour 15

Monthly Average: 20.31 ppb

Percentiles: P_1 = 2.7 P_{10} = 5.9 Q_1 = 9.5 Median = 19.1 Q_3 = 29.7 P_{90} = 36.6 P_{99} = 46.8

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	19	8	A	15	21	25	28	31	42	42	34	28	19	16	7	9	11	11	16	39	41	23	5	6	21.6	42.3
2-Nov	6	A	15	7	7	12	11	10	8	8	5	4	4	4	4	5	5	6	8	10	9	7	12	6	7.4	15.1
3-Nov	3	2	2	8	28	A	49	56	C	C	C	C	C	C	6	13	16	13	14	10	12	9	10	8	--	55.8
4-Nov	8	17	11	17	15	A	40	28	33	32	24	22	21	25	27	27	30	23	21	16	18	21	19	17	22.4	40.0
5-Nov	16	14	1	2	A	7	12	15	15	10	6	6	6	7	8	8	9	13	14	12	14	13	16	14	10.5	16.5
6-Nov	18	34	31	A	30	31	31	31	32	33	36	32	28	29	16	23	30	27	27	23	24	21	17	16	27.0	35.9
7-Nov	17	15	A	10	8	8	8	10	13	9	10	8	10	9	9	10	12	15	17	17	17	21	19	19	12.7	20.7
8-Nov	22	A	18	11	10	12	63	42	33	36	42	26	14	17	20	24	26	31	33	35	37	33	33	31	28.2	63.0
9-Nov	A	30	30	30	28	27	31	33	30	21	25	20	20	16	19	19	37	47	50	40	36	33	23	A	29.3	50.4
10-Nov	17	16	18	13	15	13	16	20	21	21	23	25	18	16	7	12	16	27	29	23	6	11	A	7	17.1	28.8
11-Nov	9	15	19	31	29	33	37	39	38	32	29	25	21	14	11	13	15	27	29	27	26	A	22	23	24.7	39.4
12-Nov	24	24	19	19	14	12	11	8	8	6	5	5	4	5	5	6	14	32	32	22	A	35	23	37	16.2	37.1
13-Nov	35	37	22	25	23	36	35	39	41	35	10	6	4	5	5	5	5	10	9	A	9	8	16	24	19.4	41.4
14-Nov	32	34	31	27	19	20	27	34	32	29	7	6	8	17	22	19	5	4	A	5	3	3	6	9	17.5	34.4
15-Nov	9	6	8	11	20	19	10	6	9	10	5	5	6	7	13	29	9	A	8	7	8	6	4	5	9.6	29.1
16-Nov	4	5	5	5	6	6	7	17	22	19	9	6	8	9	7	12	A	10	11	9	6	7	5	6	8.8	22.0
17-Nov	5	5	4	5	6	5	8	8	11	7	6	7	7	6	7	A	9	10	8	6	6	6	6	6	6.7	10.9
18-Nov	6	4	4	4	4	6	7	8	16	13	14	13	19	9	A	6	22	29	35	39	37	39	39	31	17.5	39.4
19-Nov	28	20	27	24	25	26	25	28	27	21	23	16	18	A	24	24	34	35	36	36	30	31	26	28	26.8	35.9
20-Nov	29	13	20	23	15	17	23	29	30	30	25	18	A	21	16	11	23	49	42	41	41	39	25	21	26.2	48.5
21-Nov	19	20	19	18	17	15	16	28	27	21	16	A	13	14	13	5	6	7	10	13	11	11	6	6	14.4	27.8
22-Nov	5	5	6	5	6	7	14	17	18	20	A	8	5	19	10	18	32	38	40	44	31	28	28	29	18.8	43.6
23-Nov	27	26	22	17	30	30	33	30	39	A	36	26	36	34	39	38	42	43	40	40	39	32	30	31	33.1	43.2
24-Nov	35	36	30	31	32	32	34	47	A	41	44	37	34	35	34	30	39	46	40	44	39	35	33	31	36.5	46.8
25-Nov	4	3	3	3	3	6	9	A	8	10	11	10	6	7	7	9	13	15	19	19	30	36	41	41	13.6	41.4
26-Nov	43	40	28	27	27	35	A	38	43	37	32	27	35	37	18	29	30	30	25	39	41	35	32	38	33.5	43.0
27-Nov	32	38	28	24	19	A	35	36	38	26	17	10	8	6	7	8	13	18	24	26	25	23	19	19	21.8	37.7
28-Nov	20	20	23	19	A	13	23	21	22	18	20	20	22	16	26	30	32	32	33	30	40	26	23	19	23.9	40.1
29-Nov	16	14	12	A	16	19	20	22	24	28	21	33	24	29	36	21	22	22	21	18	13	14	14	14	20.6	35.7
30-Nov	15	18	A	15	12	16	17	38	39	38	33	29	33	31	26	28	36	34	30	29	29	27	29	29	27.5	39.0
	18.1	18.7	17.0	16.0	17.4	18.1	23.5	26.5	25.7	23.4	20.3	17.2	16.3	16.4	15.6	17.0	20.5	24.4	24.9	24.7	23.5	21.7	20.1	19.7	Diurnal Average	
	42.5	40.3	31.3	31.3	32.0	35.6	63.0	55.8	43.0	42.2	43.8	36.7	36.2	37.1	38.8	37.8	42.4	48.5	50.4	43.7	40.9	38.8	40.8	41.4	Diurnal Maximum	

C - Calibration

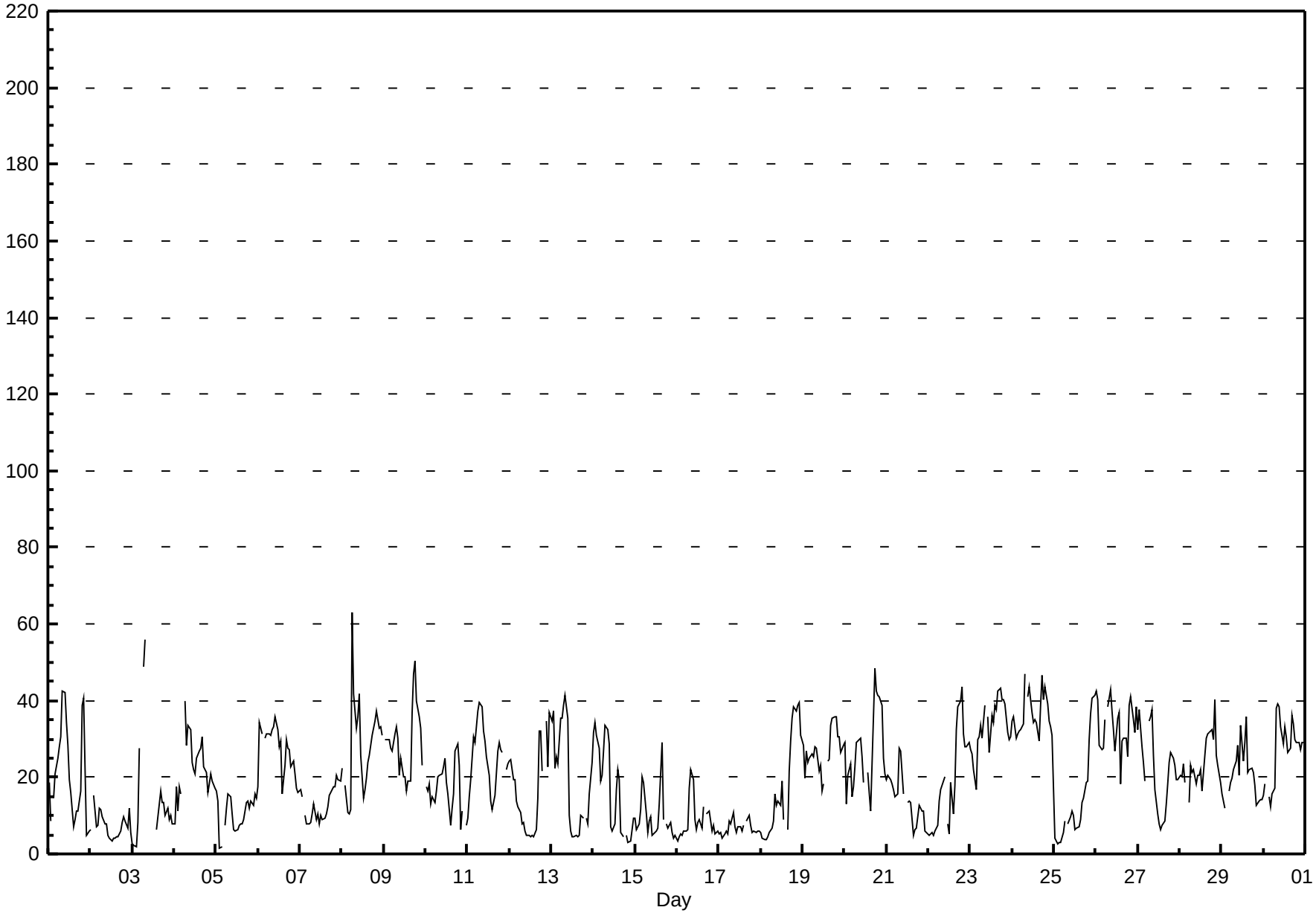
A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - November 2010



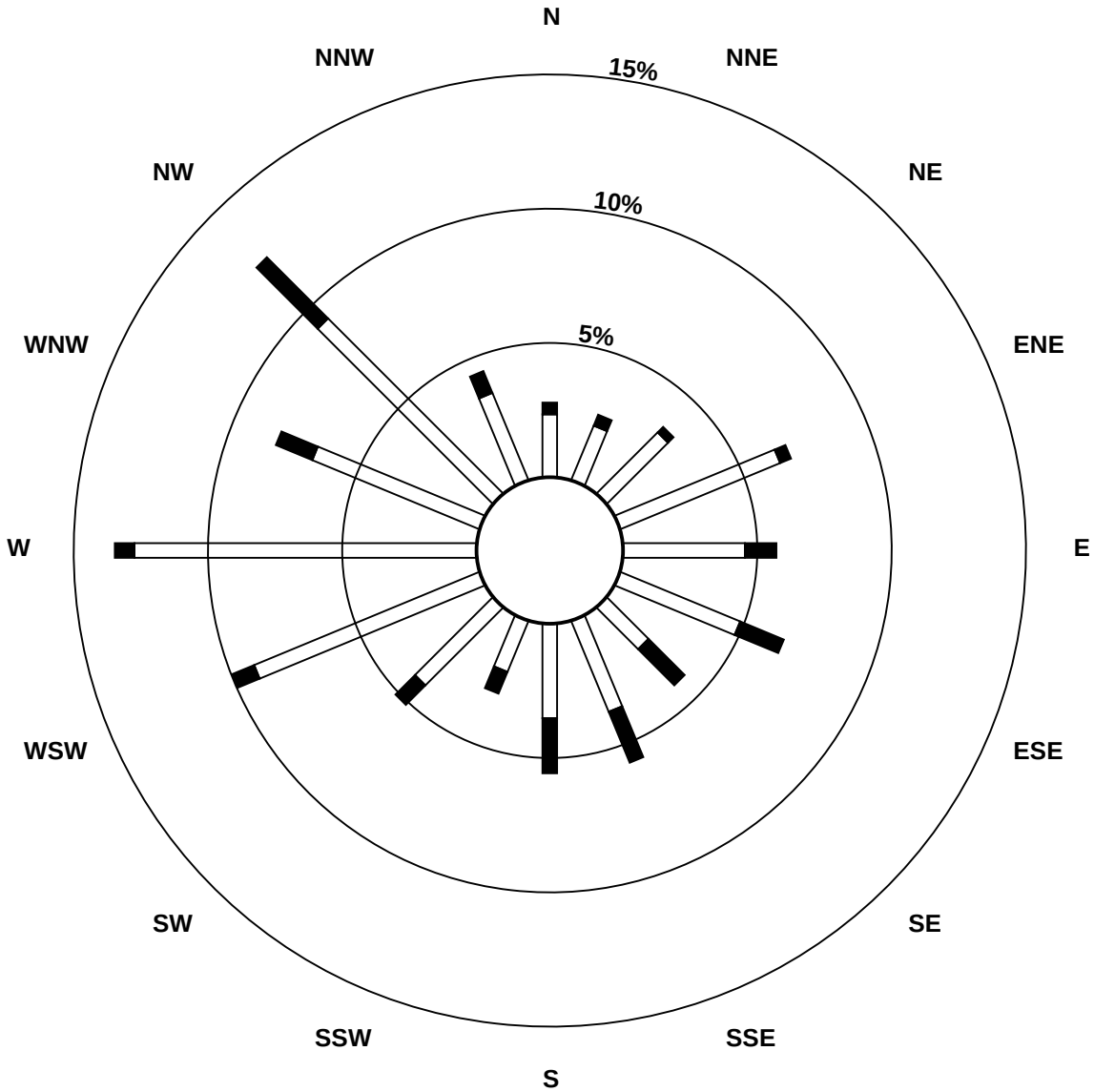
FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - November 2010



Pollutant Classes (ppb)

- 0 - 25
- 26 - 50
- 51 - 110
- 111 - 212
- > 212

FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 150.0 ppb on Nov 3 08:00
Maximum Daily Average: 43.7 ppb on Nov 9

Minimum Value: 0 ppb on Nov 2 00:00
Maximum Diurnal Average: 27.1 ppb at hour 9
Monthly Average: 13.18 ppb

Minimum Daily Average: 0.3 ppb on Nov 2
Minimum Diurnal Average: 3.4 ppb at hour 4
Percentiles: $P_1 = 0.0$ $P_{10} = 0.2$ $Q_1 = 0.8$ Median = 2.6 $Q_3 = 16.9$ $P_{90} = 44.7$ $P_{99} = 100.3$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	0	A	0	0	2	4	3	5	19	24	11	4	1	1	1	1	0	0	6	13	0	0	0	4.2	23.7
2-Nov	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.8
3-Nov	0	0	0	0	0	A	53	150	C	C	C	C	C	C	1	1	1	1	1	0	0	0	0	0	--	150.0
4-Nov	0	0	0	1	1	A	48	75	93	60	26	15	13	25	36	39	57	39	13	4	8	27	34	22	27.7	93.4
5-Nov	22	4	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1.6	21.8
6-Nov	0	1	2	A	4	27	14	25	38	49	52	27	14	14	6	3	6	8	8	5	10	19	21	17	16.1	52.0
7-Nov	16	6	A	1	1	1	1	1	2	2	3	2	2	3	4	3	3	5	9	19	18	24	33	45	8.8	44.6
8-Nov	62	A	34	21	23	22	66	102	130	106	116	30	11	7	7	10	7	10	53	68	45	13	27	30	43.5	129.9
9-Nov	A	19	24	25	19	17	44	77	90	31	33	18	11	7	9	4	8	56	126	84	101	87	71	A	43.7	126.2
10-Nov	10	9	7	2	8	3	7	26	39	25	47	54	17	4	1	1	1	1	1	1	0	0	A	0	11.5	53.8
11-Nov	0	0	0	2	10	26	57	84	64	80	19	12	12	4	3	2	2	2	7	8	7	A	3	3	17.7	84.0
12-Nov	9	9	2	2	1	1	0	0	0	1	1	1	1	1	1	1	1	2	1	0	A	1	0	2	1.7	9.3
13-Nov	4	3	0	0	0	1	2	7	36	2	1	1	1	1	1	1	0	0	0	A	1	0	0	0	2.7	35.5
14-Nov	8	28	24	3	0	0	1	2	6	11	0	0	1	2	4	2	0	0	A	0	0	0	0	0	4.0	27.6
15-Nov	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	6	1	A	1	1	1	1	0	0	0.7	5.6
16-Nov	0	0	1	1	1	0	0	1	3	3	1	1	2	1	1	2	A	1	1	1	1	1	1	1	1.2	3.5
17-Nov	1	1	1	1	1	1	1	2	3	2	1	2	1	2	2	A	2	2	2	1	1	1	1	1	1.4	2.8
18-Nov	1	1	1	0	1	1	1	2	2	2	3	3	4	3	A	1	1	3	6	17	46	57	65	38	11.2	65.0
19-Nov	33	11	17	6	14	9	8	15	14	9	14	12	10	A	9	9	17	25	20	22	6	7	2	1	12.6	33.3
20-Nov	1	0	0	1	1	1	1	5	10	25	23	11	A	8	5	2	3	17	28	46	41	51	21	6	13.3	51.0
21-Nov	3	1	1	1	0	0	0	7	5	4	7	A	7	6	2	1	0	1	1	2	1	1	1	1	2.3	7.4
22-Nov	1	1	1	1	1	1	2	3	4	5	A	3	2	5	5	5	5	10	14	30	6	3	2	3	4.8	29.9
23-Nov	2	1	1	0	2	5	9	2	34	A	55	24	37	51	52	39	50	48	48	76	45	28	22	32	28.8	75.7
24-Nov	40	53	33	23	35	46	41	66	A	83	71	49	37	26	11	11	10	30	26	47	24	22	18	2	35.0	82.9
25-Nov	0	0	0	0	0	0	0	A	0	1	1	2	1	1	1	1	1	1	0	0	0	2	6	19	1.7	19.4
26-Nov	30	11	1	1	1	1	A	17	41	49	16	12	14	22	3	6	5	4	1	5	18	4	2	3	11.6	49.2
27-Nov	1	5	1	1	0	A	3	13	17	8	3	2	2	2	2	2	2	1	3	8	5	3	3	2	3.9	17.0
28-Nov	2	1	3	1	A	0	5	5	7	11	30	25	29	10	19	37	38	48	66	74	91	48	22	11	25.2	90.7
29-Nov	2	1	1	A	2	7	14	16	24	46	36	65	39	58	62	10	5	4	4	3	2	2	1	1	17.5	65.0
30-Nov	1	1	A	1	1	1	1	6	89	91	49	34	48	41	29	26	56	64	40	26	31	15	13	10	29.3	91.5
	8.6	6.0	5.7	3.4	4.5	6.4	13.2	24.5	27.1	25.9	22.7	14.9	11.5	11.0	9.6	7.8	9.8	13.2	16.6	19.2	18.0	14.4	12.8	8.6	Diurnal Average	
	61.6	53.3	34.4	24.6	35.4	46.1	65.6	150.0	129.9	106.0	116.3	65.0	47.9	58.3	62.0	39.3	57.1	64.2	126.2	84.1	100.7	86.5	71.0	44.6	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

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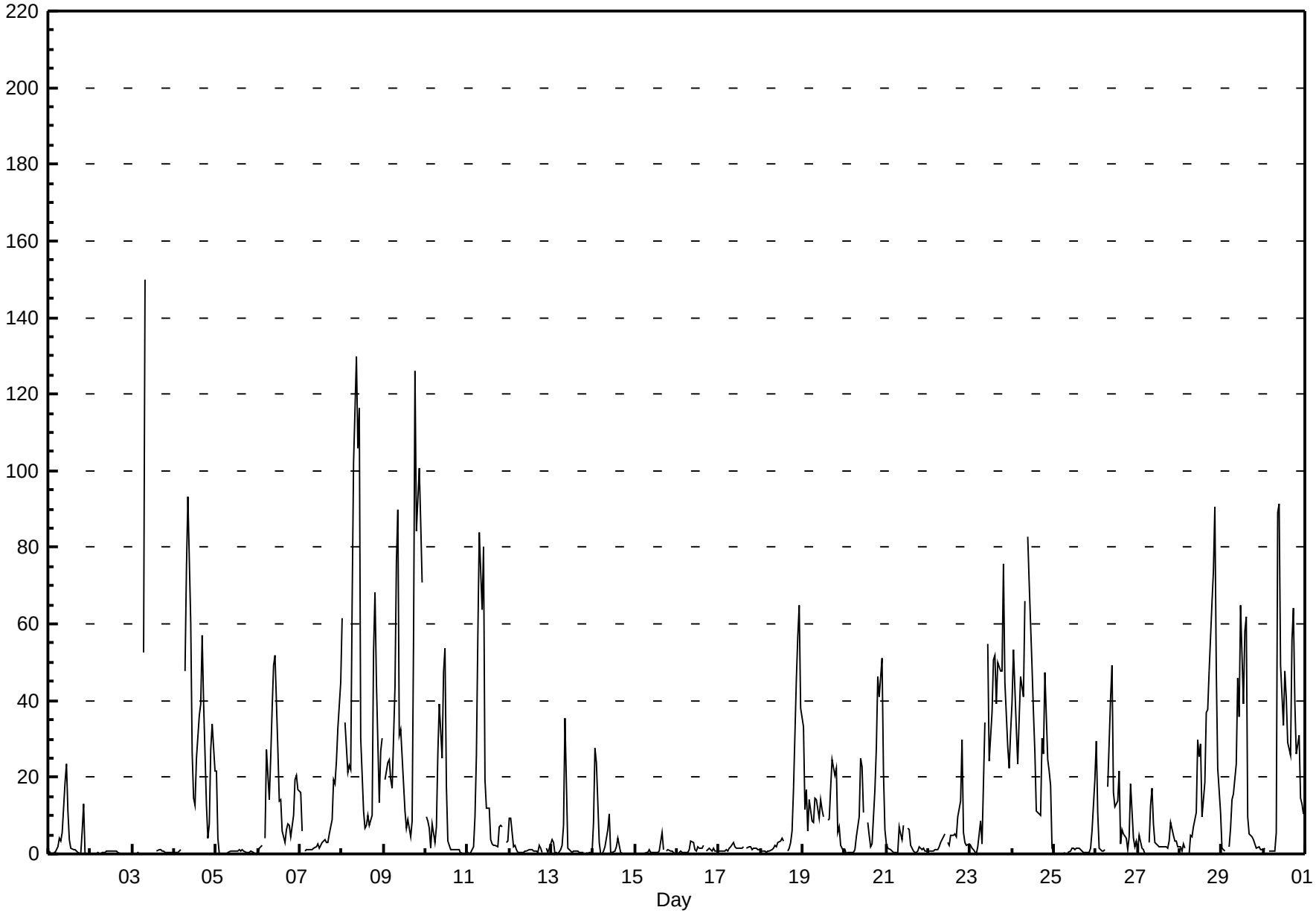
Peace Air Shed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2010

Maximum Value: 210.6 ppb on Nov 9 19:00

Maximum Daily Average: 71.3 ppb on Nov 9

Minimum Value: 0 ppb on Nov 15 02:00

Minimum Daily Average: 1.1 ppb on Nov 2

Maximum Diurnal Average: 44.8 ppb at hour 9

Minimum Diurnal Average: 8.6 ppb at hour 4

Monthly Average: 23.27 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 1.0$ $Q_1 = 2.0$ Median = 7.9 $Q_3 = 32.4$ $P_{90} = 69.4$ $P_{99} = 133.9$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	1	A	1	2	7	9	8	18	70	34	24	9	6	2	2	2	1	1	15	29	1	0	0	10.7	69.8
2-Nov	0	A	1	0	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.1	5.2
3-Nov	0	0	0	7	3	A	140	204	C	C	C	C	C	C	3	3	3	1	2	2	1	1	2	1	--	204.4
4-Nov	1	4	1	7	3	A	109	94	122	128	39	18	15	36	43	54	79	81	39	10	23	42	50	31	44.7	128.1
5-Nov	31	23	0	0	A	1	1	2	2	1	2	2	2	2	2	2	2	1	1	1	1	1	1	3	3.5	31.1
6-Nov	1	7	8	A	16	43	27	33	52	61	61	58	28	35	8	12	15	16	21	8	28	29	33	63	28.8	63.2
7-Nov	29	19	A	3	2	2	3	3	4	3	5	3	4	5	6	5	5	9	20	25	32	36	51	76	15.1	75.6
8-Nov	70	A	47	29	29	31	164	137	181	135	160	52	15	13	11	15	17	31	97	103	108	48	49	41	68.8	181.1
9-Nov	A	33	29	30	47	37	77	117	134	59	58	25	23	11	12	7	38	166	211	121	123	126	86	A	71.3	210.6
10-Nov	15	21	20	10	17	10	17	48	52	46	58	86	30	12	2	3	3	4	5	5	0	1	A	1	20.1	85.7
11-Nov	4	1	2	13	15	55	140	111	76	101	34	35	24	8	5	8	5	6	24	25	19	A	12	9	31.7	139.7
12-Nov	15	18	8	8	2	2	1	1	1	1	2	2	2	2	2	2	1	7	9	1	A	5	6	12	4.7	18.1
13-Nov	15	15	2	5	0	8	20	23	73	17	2	2	1	1	2	2	2	1	1	A	1	1	2	2	8.5	73.0
14-Nov	29	46	49	17	1	1	6	18	22	24	1	1	2	5	11	7	1	1	A	1	1	0	0	0	10.6	49.3
15-Nov	1	0	0	0	0	1	2	1	3	3	2	1	1	2	3	31	5	A	3	3	4	3	3	2	3.2	30.8
16-Nov	1	2	4	4	3	1	3	4	10	13	3	2	5	6	3	13	A	2	6	4	5	5	3	3	4.7	13.0
17-Nov	4	3	2	5	4	2	7	4	7	5	3	3	3	4	4	A	4	4	5	4	4	4	4	5	3.9	6.9
18-Nov	2	2	2	1	2	2	4	6	8	5	13	21	41	5	A	2	3	5	12	36	73	94	99	62	21.6	99.4
19-Nov	51	29	30	18	27	17	11	23	22	12	24	15	19	A	20	14	40	41	53	42	22	20	5	3	24.2	53.1
20-Nov	4	0	1	2	1	1	3	9	18	38	38	22	A	20	11	5	8	47	48	69	81	82	40	15	24.5	82.3
21-Nov	5	2	2	1	1	1	3	13	12	6	12	A	9	9	9	2	1	2	2	11	3	3	2	4	4.9	13.3
22-Nov	2	2	2	2	2	2	3	6	17	21	A	5	3	21	7	9	11	19	32	73	14	8	5	5	11.8	72.9
23-Nov	6	3	3	1	8	7	17	8	93	A	76	44	71	57	72	50	65	63	68	100	82	55	38	36	44.5	99.9
24-Nov	69	70	60	62	49	63	100	128	A	108	102	77	48	50	27	15	16	65	39	73	53	30	27	23	58.7	127.6
25-Nov	1	1	0	0	1	1	1	A	1	2	3	3	2	3	3	2	1	1	1	3	2	5	21	32	3.7	32.0
26-Nov	50	47	6	3	3	10	A	41	108	67	37	20	43	51	4	11	15	9	6	16	36	20	5	10	26.9	108.4
27-Nov	8	31	16	10	0	A	13	37	42	20	6	3	3	3	3	3	3	5	7	22	17	8	11	4	11.9	42.0
28-Nov	5	4	9	3	A	0	14	15	15	22	40	38	36	18	43	71	62	57	84	84	122	84	37	26	38.6	122.3
29-Nov	5	3	2	A	6	15	22	27	42	65	45	91	50	74	99	18	10	6	5	4	3	4	2	2	25.9	99.1
30-Nov	2	4	A	2	2	3	4	83	118	124	85	57	84	68	37	34	85	73	66	45	50	23	40	42	49.1	123.9
	14.7	13.8	11.2	8.6	9.0	11.9	31.7	41.6	44.8	41.3	33.7	25.3	20.4	18.8	15.6	13.8	17.3	25.0	29.9	31.2	32.3	25.5	21.9	17.6	Diurnal Average	
	70.2	69.6	59.6	61.6	49.3	62.5	163.8	204.4	181.1	134.8	160.3	90.6	83.7	74.2	99.1	71.2	85.1	166.4	210.6	121.4	123.3	125.6	99.4	75.6	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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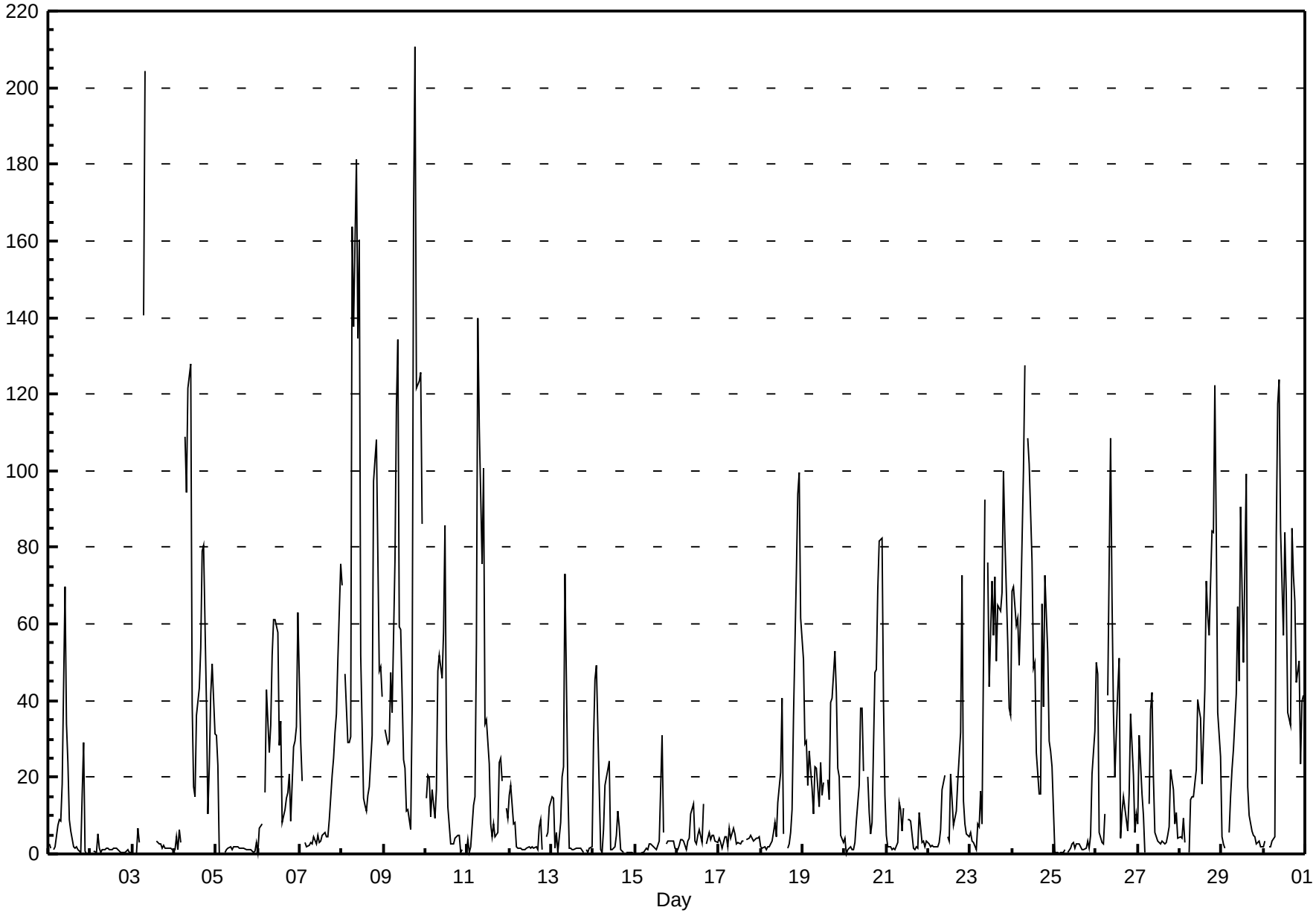
Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 195.8 ppb on Nov 3 08:00
Maximum Daily Average: 67.6 ppb on Nov 9

Minimum Value: 1 ppb on Nov 5 03:00
Maximum Diurnal Average: 47.7 ppb at hour 9
Monthly Average: 28.90 ppb

Minimum Daily Average: 4.8 ppb on Nov 2
Minimum Diurnal Average: 15.1 ppb at hour 4
Percentiles: P_1 = 2.2 P_{10} = 4.2 Q_1 = 7.2 Median = 18.4 Q_3 = 39.5 P_{90} = 72.3 P_{99} = 127.4

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	11	5	A	9	17	22	29	27	32	53	52	31	14	6	6	7	8	8	10	34	48	8	4	4	19.2	53.1
2-Nov	5	A	6	3	5	8	7	6	7	6	4	4	3	3	3	3	4	4	5	6	6	4	7	3	4.8	7.8
3-Nov	2	1	1	3	9	A	93	196	C	C	C	C	C	C	5	10	11	12	11	8	7	7	8	6	--	195.8
4-Nov	6	7	8	12	11	A	72	100	122	85	47	33	32	46	60	64	82	60	31	19	24	45	51	36	45.9	122.4
5-Nov	35	9	1	1	A	5	6	10	11	8	5	5	5	6	6	7	8	10	10	9	11	9	9	7	8.4	35.1
6-Nov	12	20	26	A	31	56	42	54	68	79	84	53	35	33	19	15	29	31	28	23	31	36	35	29	37.8	84.3
7-Nov	28	17	A	8	8	8	8	10	11	9	9	8	10	10	12	12	12	19	25	36	35	40	50	61	19.3	61.0
8-Nov	80	A	48	30	31	31	85	128	158	134	151	51	24	19	23	31	30	37	83	99	75	42	56	58	65.3	158.1
9-Nov	A	44	53	51	43	39	67	101	114	47	52	36	25	18	26	21	32	96	167	121	131	112	91	A	67.6	167.2
10-Nov	25	22	20	13	21	15	21	43	58	41	67	75	32	10	6	9	13	19	16	15	5	6	A	5	24.1	74.8
11-Nov	6	11	15	24	33	54	86	119	95	108	42	27	28	13	12	12	15	20	32	29	29	A	20	24	37.1	118.8
12-Nov	32	30	20	17	12	9	7	6	5	5	5	4	4	4	4	6	9	22	17	15	A	23	11	26	12.8	32.5
13-Nov	32	28	14	18	19	19	31	42	71	14	7	4	3	4	4	4	4	6	7	A	9	6	10	19	16.4	71.4
14-Nov	34	58	52	23	15	15	21	25	29	36	4	3	4	12	19	12	4	3	A	3	2	2	3	5	16.6	57.8
15-Nov	6	5	6	7	8	11	8	5	7	7	3	4	4	4	7	17	6	A	5	5	4	4	3	2	6.1	17.2
16-Nov	2	3	3	3	4	4	4	10	18	14	5	4	7	7	6	8	A	8	9	7	5	6	4	4	6.2	18.2
17-Nov	4	4	3	3	4	4	6	7	10	7	5	6	5	6	7	A	8	8	7	6	5	5	4	4	5.5	9.5
18-Nov	4	3	4	3	4	5	6	8	11	10	11	9	9	10	A	4	16	27	38	53	81	92	98	64	24.7	97.6
19-Nov	57	29	40	25	36	33	30	40	38	28	32	26	22	A	24	28	45	57	52	51	25	34	24	24	34.8	57.3
20-Nov	19	12	16	17	12	12	18	29	37	52	43	24	A	22	16	10	20	54	66	85	77	81	45	25	34.4	85.4
21-Nov	20	18	18	16	14	12	11	29	28	18	21	A	18	17	8	4	5	6	8	12	10	8	4	4	13.5	29.0
22-Nov	4	4	4	4	5	6	12	15	17	20	A	8	6	11	12	18	23	42	49	66	30	23	22	25	18.5	66.2
23-Nov	25	22	18	14	23	34	38	28	68	A	85	44	61	83	87	73	89	87	85	114	77	57	49	61	57.5	113.6
24-Nov	69	84	57	49	62	74	71	102	A	119	107	81	66	56	35	37	43	70	65	88	60	55	49	9	65.6	118.8
25-Nov	2	2	2	2	2	3	6	A	6	8	9	8	6	6	7	7	9	11	11	10	21	33	39	59	11.8	58.9
26-Nov	69	37	21	20	25	18	A	50	75	82	41	35	39	50	14	28	30	31	16	29	56	25	26	34	37.1	82.5
27-Nov	17	30	25	17	12	A	29	45	46	30	16	11	8	7	8	8	12	16	24	32	25	22	19	16	20.6	46.2
28-Nov	18	13	19	17	A	11	23	23	27	28	49	42	48	23	38	63	65	78	95	101	120	71	43	28	45.4	120.0
29-Nov	15	13	12	A	16	23	32	36	44	69	54	91	60	84	90	28	23	24	22	18	13	14	13	13	35.1	91.5
30-Nov	13	13	A	11	11	12	14	24	122	124	77	57	74	67	53	51	89	96	67	52	57	40	37	33	51.9	123.7
	22.5	19.5	18.9	15.1	17.6	20.0	30.5	45.4	47.7	44.3	38.8	27.9	23.3	22.8	21.3	20.5	25.6	33.2	36.6	39.5	37.2	31.4	28.7	23.8	Diurnal Average	
	80.1	84.4	57.3	50.7	62.2	74.2	92.6	195.8	158.1	134.3	150.8	91.5	74.2	84.4	90.1	72.6	89.4	96.2	167.2	121.0	130.7	112.0	97.6	64.4	Diurnal Maximum	

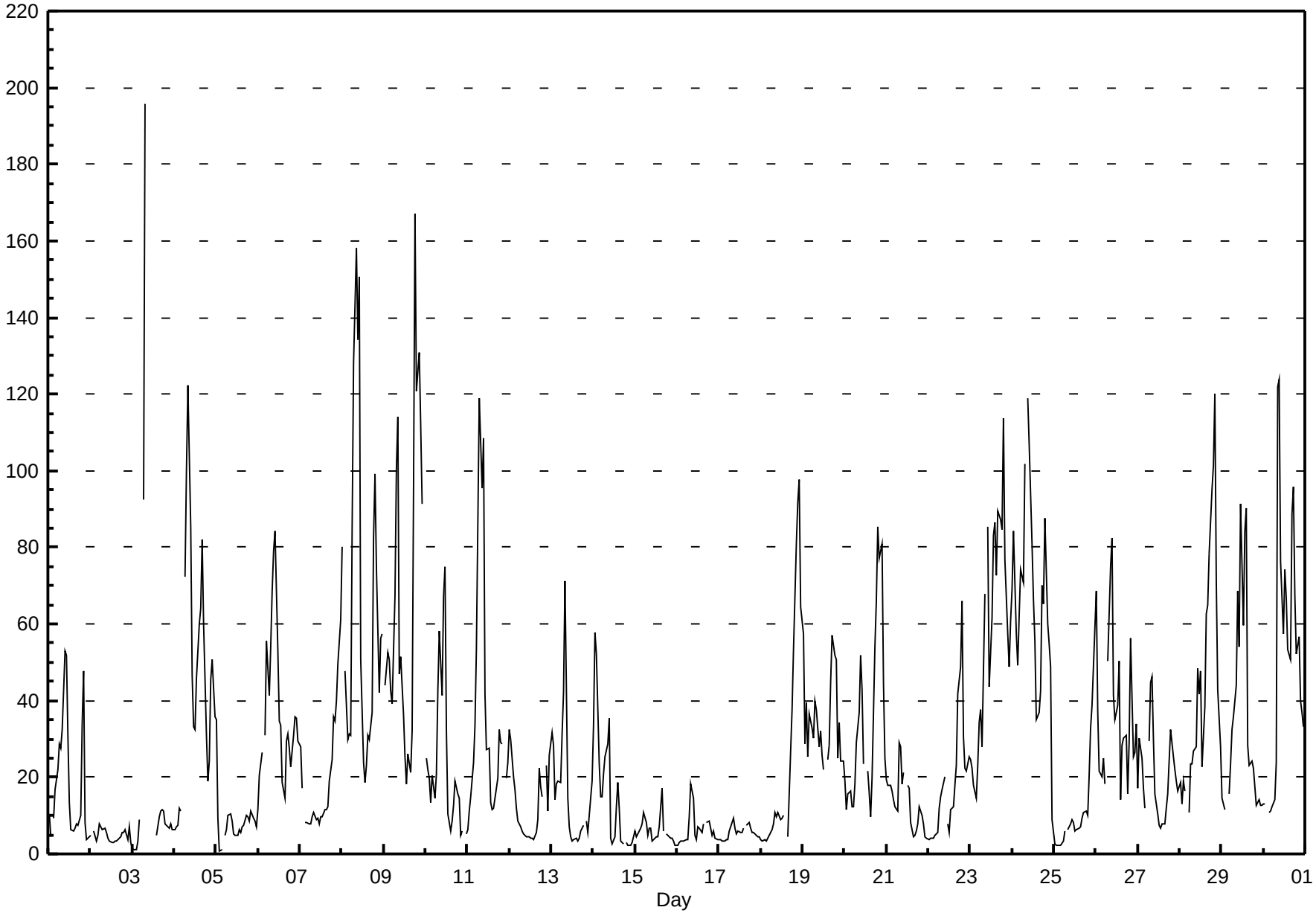
C - Calibration A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - November 2010

Maximum Value: 260.1 ppb on Nov 9 19:00

Maximum Daily Average: 99.3 ppb on Nov 9

Minimum Value: 1 ppb on Nov 5 03:00

Minimum Daily Average: 8.3 ppb on Nov 2

Maximum Diurnal Average: 69.3 ppb at hour 9

Minimum Diurnal Average: 24.1 ppb at hour 4

Monthly Average: 42.93 ppb

Percentiles: P_1 = 3.3 P_{10} = 7.4 Q_1 = 12.0 Median = 29.4 Q_3 = 60.7 P_{90} = 106.0 P_{99} = 177.4

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	21	9	A	15	22	32	37	39	60	112	63	52	28	21	9	10	13	12	16	53	67	23	5	6	31.6	111.7
2-Nov	6	A	15	7	13	12	12	11	8	9	6	5	4	5	5	6	5	6	8	10	9	7	12	6	8.3	15.0
3-Nov	3	2	2	15	31	A	183	256	C	C	C	C	C	C	9	15	18	14	16	12	13	10	11	8	--	256.4
4-Nov	9	22	12	22	19	A	149	120	155	160	63	40	36	56	70	81	109	102	59	26	40	61	66	46	66.2	160.2
5-Nov	47	35	1	2	A	8	13	17	17	12	8	7	8	9	9	10	10	14	15	13	15	13	16	17	13.7	46.6
6-Nov	18	41	39	A	44	73	58	64	83	93	97	90	56	64	24	34	44	43	48	30	50	48	49	79	55.1	97.4
7-Nov	43	32	A	13	10	10	11	12	17	11	14	11	13	13	14	15	16	24	37	42	49	54	67	92	27.1	92.4
8-Nov	90	A	62	40	38	41	227	180	210	171	201	78	29	28	31	38	42	62	126	133	138	78	78	68	95.1	227.0
9-Nov	A	61	59	59	75	63	108	144	163	79	82	44	43	27	30	25	75	213	260	157	154	158	108	A	99.3	260.1
10-Nov	31	37	37	21	32	22	33	68	72	67	79	110	48	28	10	15	18	31	34	28	7	12	A	8	36.8	110.0
11-Nov	11	16	21	39	40	84	173	150	109	131	62	60	44	22	15	19	19	32	52	51	45	A	34	33	54.9	173.1
12-Nov	39	43	27	27	16	14	12	9	9	7	7	7	7	6	6	8	15	39	41	22	A	39	28	49	20.8	49.2
13-Nov	48	52	24	29	24	43	55	61	114	53	12	7	5	5	7	6	6	11	10	A	10	9	16	25	27.5	114.3
14-Nov	58	75	79	45	20	21	29	52	55	52	8	6	10	21	33	27	6	5	A	5	3	4	7	10	27.3	78.5
15-Nov	10	7	8	12	20	19	11	7	10	12	7	7	7	9	17	54	14	A	11	10	11	9	7	6	12.3	53.8
16-Nov	5	7	9	9	7	6	9	21	30	27	12	9	13	15	9	26	A	12	17	10	10	12	9	8	12.8	30.0
17-Nov	8	8	5	10	10	7	15	12	17	11	8	10	10	8	11	A	12	13	11	9	9	9	9	10	10.0	17.4
18-Nov	7	5	5	4	6	7	10	13	24	17	26	32	60	14	A	7	24	35	47	74	109	132	138	91	38.6	138.0
19-Nov	78	48	57	41	51	43	36	51	50	34	47	32	37	A	44	37	73	76	89	78	52	51	31	32	50.7	89.0
20-Nov	33	13	22	26	16	19	26	38	48	65	63	40	A	41	27	16	32	96	87	109	116	113	63	36	49.7	116.1
21-Nov	24	22	21	19	18	15	19	41	38	27	28	A	22	23	22	6	7	8	11	21	14	13	8	8	19.1	41.2
22-Nov	7	7	8	7	7	9	17	22	28	41	A	13	9	36	18	27	44	57	71	115	45	35	33	33	30.0	115.3
23-Nov	32	29	25	18	38	38	50	38	130	A	110	70	108	91	111	86	107	106	106	140	117	86	66	67	76.9	139.8
24-Nov	103	105	89	92	80	93	134	174	A	148	146	113	82	84	61	44	53	112	79	115	91	64	60	54	94.7	174.1
25-Nov	5	3	3	3	3	6	10	A	9	11	14	13	8	9	9	11	14	15	20	22	31	40	62	72	17.1	71.9
26-Nov	92	87	34	30	29	46	A	77	147	103	70	47	78	88	22	40	45	40	31	55	74	55	35	43	59.5	146.8
27-Nov	40	68	44	34	19	A	48	72	79	46	22	14	11	9	11	11	16	23	30	48	40	28	30	23	33.3	78.8
28-Nov	25	25	33	22	A	14	37	36	37	41	61	58	56	35	69	99	94	88	116	113	149	109	60	44	61.7	149.1
29-Nov	20	16	13	A	22	33	41	48	66	89	66	124	74	104	133	38	32	28	26	22	15	17	16	16	46.1	132.5
30-Nov	17	21	A	17	14	17	21	119	156	161	118	84	116	98	62	61	121	106	96	73	79	50	69	71	76.1	160.8
	32.0	32.1	27.9	24.1	25.8	29.5	54.5	67.3	69.3	63.9	53.6	42.3	36.5	34.7	30.9	30.0	37.5	49.1	54.1	55.1	53.9	46.2	41.1	36.6	Diurnal Average	
	102.5	105.5	88.9	92.0	79.9	92.9	227.0	256.4	210.2	170.7	201.2	123.6	116.5	103.9	132.5	99.3	121.4	212.7	260.1	156.9	154.4	157.8	138.0	92.4	Diurnal Maximum	

C - Calibration

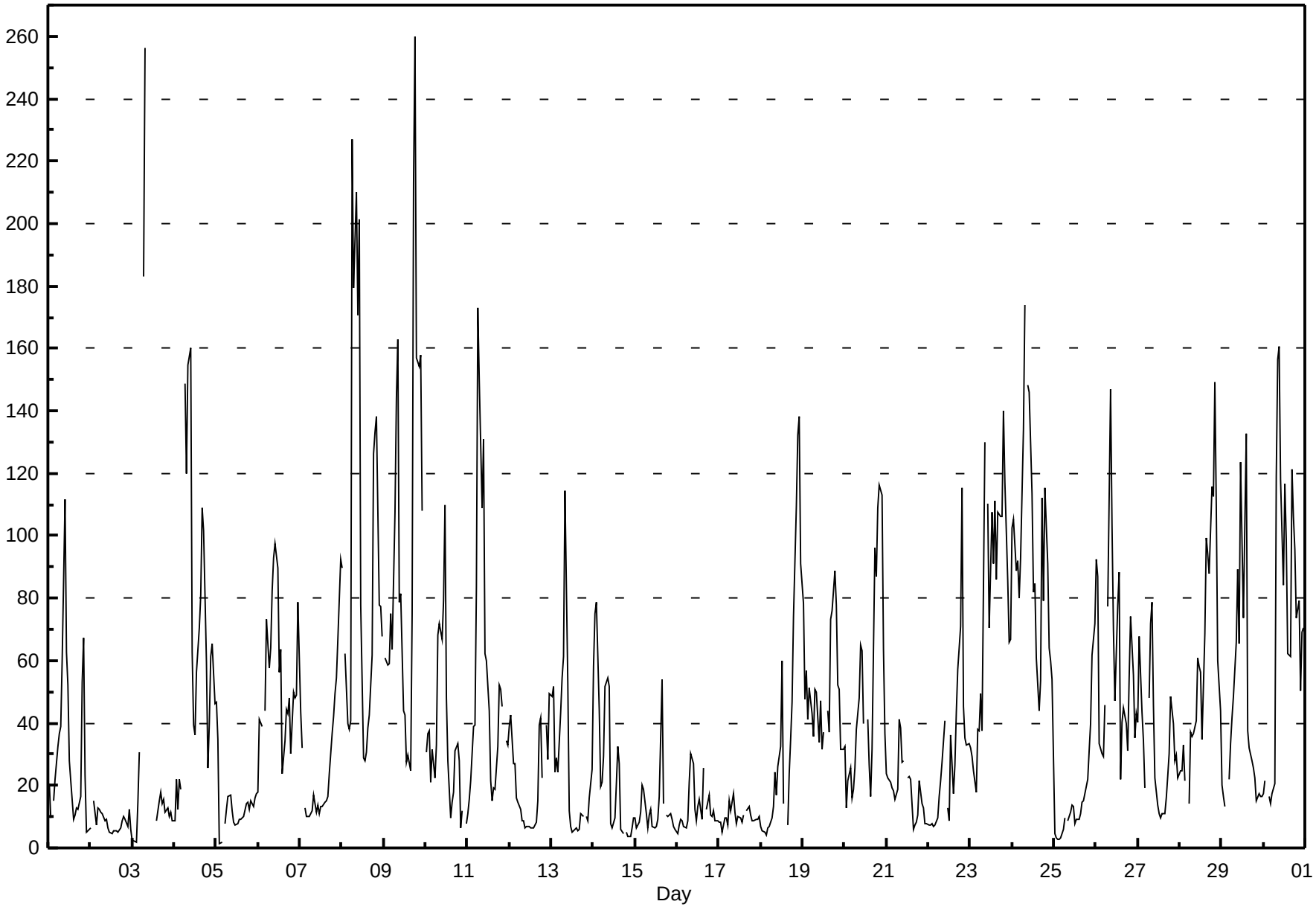
A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 38.3 ppb on Nov 1 23:00 Maximum Daily Average: 32.9 ppb on Nov 2

Minimum Value: 1 ppb on Nov 5 01:00 Minimum Daily Average: 4.1 ppb on Nov 8
Maximum Diurnal Average: 21.1 ppb at hour 14 Minimum Diurnal Average: 9.9 ppb at hour 8
Monthly Average: 15.24 ppb Percentiles: P_1 = 0.8 P_{10} = 1.4 Q_1 = 4.0 Median = 13.2 Q_3 = 26.7 P_{90} = 31.1 P_{99} = 36.9

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	25	29	A	24	15	12	8	11	9	5	10	20	28	38	37	36	35	33	29	11	3	31	38	35	22.7	38.3
2-Nov	34	A	31	35	32	28	31	32	31	33	36	36	37	37	37	37	36	34	32	31	29	29	26	31	32.9	37.3
3-Nov	35	35	35	31	26	A	1	2	2	4	10	23	C	C	C	30	28	25	24	27	28	27	26	26	22.3	35.2
4-Nov	25	24	22	14	7	A	1	1	2	3	7	7	6	5	3	2	1	1	2	2	1	1	1	1	6.0	25.4
5-Nov	1	18	32	33	A	33	31	26	25	27	31	32	31	31	31	30	30	26	25	25	22	23	24	24	26.5	33.5
6-Nov	20	14	7	A	2	1	1	1	2	3	5	8	13	15	19	19	9	5	6	7	4	1	1	1	7.1	19.8
7-Nov	1	5	A	12	11	11	13	13	14	17	17	16	14	11	9	8	7	3	1	1	2	1	2	2	8.3	16.9
8-Nov	2	A	1	1	1	1	2	2	2	2	3	8	13	15	11	7	7	3	2	1	2	3	2	1	4.1	15.4
9-Nov	A	1	1	1	1	1	1	1	2	3	6	11	17	18	16	20	13	2	2	2	1	1	1	A	5.7	19.6
10-Nov	1	1	2	2	1	2	1	1	1	2	2	3	10	24	30	29	23	16	22	21	25	25	A	27	11.9	29.8
11-Nov	23	16	13	4	1	1	1	2	1	2	7	12	12	17	19	19	15	11	4	3	3	A	5	3	8.5	23.1
12-Nov	1	2	3	4	10	19	23	24	27	28	31	32	33	34	34	32	27	16	21	21	A	17	26	12	20.8	34.0
13-Nov	8	11	19	14	12	17	8	2	1	22	29	32	32	31	30	32	30	27	23	A	23	27	20	12	20.1	32.0
14-Nov	6	2	2	8	13	12	9	6	7	4	24	25	22	14	10	13	22	24	A	27	30	28	32	28	15.9	31.7
15-Nov	22	26	24	22	18	15	17	20	30	31	33	33	31	31	27	23	28	A	29	29	30	31	30	30	26.5	33.3
16-Nov	30	28	27	27	27	28	29	25	18	17	28	30	29	28	29	28	A	26	25	26	29	29	31	31	27.2	31.1
17-Nov	32	31	30	30	29	28	26	25	25	25	27	27	29	29	30	A	30	28	29	30	31	31	32	31	29.0	31.8
18-Nov	31	31	30	29	28	28	27	26	25	25	25	27	28	27	A	29	20	11	5	1	2	1	1	2	20.0	31.2
19-Nov	1	1	1	1	1	2	4	3	5	10	12	14	17	A	16	13	5	2	2	7	13	4	8	6	6.5	16.8
20-Nov	12	17	12	12	17	17	11	5	3	4	9	18	A	20	24	27	19	4	2	2	3	1	1	3	10.6	27.1
21-Nov	5	7	10	10	12	13	14	6	5	13	14	A	18	20	25	27	26	24	22	19	19	25	29	30	17.0	29.6
22-Nov	32	33	33	33	32	31	25	22	19	18	A	27	29	28	26	23	18	8	5	4	12	16	16	13	21.9	33.4
23-Nov	13	14	18	18	13	7	7	9	6	A	12	19	19	15	13	10	6	5	4	4	5	4	4	4	10.0	19.3
24-Nov	4	4	3	3	3	3	3	3	A	5	6	9	12	13	17	12	8	4	4	4	3	2	3	28	6.8	28.5
25-Nov	35	35	35	35	36	34	33	A	33	31	31	32	33	34	33	32	30	28	28	28	19	7	5	2	28.2	35.7
26-Nov	1	11	16	15	9	18	A	3	1	2	6	7	8	6	22	15	8	8	20	13	2	15	11	5	9.6	21.9
27-Nov	18	8	10	17	20	A	7	1	2	6	15	18	21	22	20	19	15	11	4	2	6	4	7	7	11.3	22.4
28-Nov	5	10	7	8	A	9	3	2	2	4	4	7	7	13	10	4	2	1	1	1	1	1	1	1	4.5	13.2
29-Nov	5	7	9	A	5	2	1	1	2	2	5	5	8	7	6	11	11	12	12	15	18	17	18	17	8.5	17.9
30-Nov	17	17	A	21	19	19	16	11	1	2	4	6	6	7	5	4	2	1	1	1	1	1	1	1	7.1	20.5
	15.3	15.6	16.1	16.6	14.4	14.6	12.3	9.9	10.4	12.1	15.4	18.8	20.1	21.1	21.0	20.4	17.5	13.8	13.3	12.7	12.7	14.0	13.9	14.3	Diurnal Average	
	35.1	35.3	35.0	35.4	35.7	34.4	32.6	32.5	32.9	32.8	35.5	36.4	36.9	37.6	37.0	37.0	36.0	33.6	32.3	31.0	31.1	31.4	38.3	35.0	Diurnal Maximum	

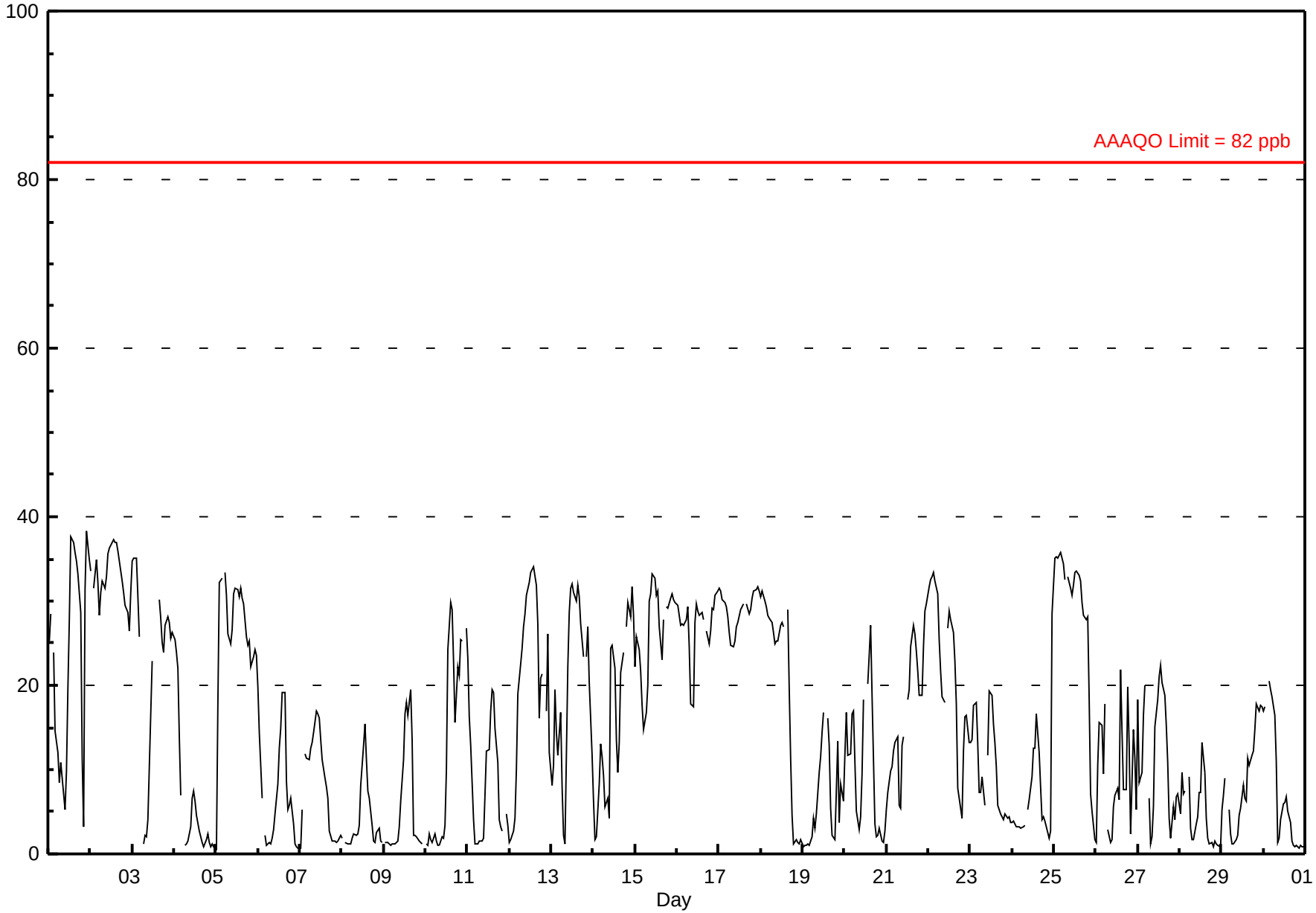
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

PASZA
Peace Air Shed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - November 2010

Maximum Value: 41.9 ppb on Nov 1 23:00

Maximum Daily Average: 35.6 ppb on Nov 2

Minimum Value: 1 ppb on Nov 5 01:00

Minimum Daily Average: 6.2 ppb on Nov 8

Maximum Diurnal Average: 24.0 ppb at hour 14

Minimum Diurnal Average: 13.0 ppb at hour 8

Monthly Average: 18.45 ppb

Percentiles: P_1 = 1.5 P_{10} = 2.6 Q_1 = 7.1 Median = 18.7 Q_3 = 29.4 P_{90} = 33.4 P_{99} = 38.9

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	31	31	A	28	20	17	12	18	16	7	17	26	31	40	39	39	38	36	34	29	14	41	42	38	28.0	41.9
2-Nov	36	A	37	37	36	34	34	36	33	36	37	37	38	39	38	39	38	35	35	34	32	33	30	33	35.6	39.2
3-Nov	36	36	36	33	33	A	2	4	5	7	22	27	C	C	C	34	31	28	27	29	30	30	28	28	25.3	36.4
4-Nov	28	25	25	20	10	A	2	2	2	5	10	12	8	8	3	2	2	2	3	3	3	3	11	2	8.4	27.6
5-Nov	1	28	35	38	A	36	33	31	30	30	33	33	33	33	34	33	32	30	28	28	27	26	29	28	30.0	38.0
6-Nov	24	21	12	A	4	2	5	2	3	4	6	16	17	19	23	24	16	9	10	10	5	7	2	2	10.5	23.7
7-Nov	2	10	A	13	12	12	15	15	17	18	18	17	16	14	10	10	9	5	2	2	2	2	2	5	10.0	18.2
8-Nov	3	A	2	2	2	2	5	5	3	3	5	13	16	20	14	10	10	8	2	2	6	6	3	2	6.2	20.2
9-Nov	A	2	2	1	1	2	2	2	3	6	9	14	21	20	20	31	31	4	4	3	3	2	2	A	8.4	30.8
10-Nov	2	2	4	2	3	4	3	1	1	3	2	8	14	30	34	32	29	23	31	27	27	28	A	31	14.9	33.7
11-Nov	26	22	19	7	2	4	4	3	2	5	10	15	16	19	22	22	18	18	7	8	7	A	9	9	12.0	26.2
12-Nov	4	4	4	7	12	25	25	26	30	30	33	34	35	35	35	34	32	25	30	25	A	29	34	18	24.5	35.0
13-Nov	20	24	26	22	16	28	18	7	3	28	32	33	33	33	33	33	32	30	25	A	26	29	27	21	25.3	33.4
14-Nov	17	6	10	16	19	15	16	11	13	22	27	27	24	21	16	22	24	27	A	29	31	31	34	31	21.3	33.9
15-Nov	25	28	28	26	23	20	20	22	37	33	35	35	33	33	32	28	30	A	31	32	32	32	32	31	29.4	36.8
16-Nov	30	29	28	29	29	32	32	31	25	23	32	32	31	30	31	30	A	29	27	28	31	31	32	32	29.7	32.5
17-Nov	33	33	32	30	31	29	28	27	27	26	29	29	31	31	31	A	31	30	30	32	32	32	33	33	30.5	33.0
18-Nov	32	32	31	30	29	29	29	28	27	27	27	29	29	29	A	31	29	21	9	2	3	2	3	10	22.4	32.1
19-Nov	1	2	1	3	2	4	7	5	9	14	14	17	20	A	19	17	10	5	4	20	22	6	13	10	9.8	22.4
20-Nov	20	21	23	18	19	20	14	10	6	6	16	24	A	24	29	29	25	12	4	3	4	3	12	5	15.1	29.2
21-Nov	7	9	11	12	14	14	17	16	10	17	15	A	21	21	27	28	28	25	24	21	25	29	30	32	19.7	31.9
22-Nov	33	34	34	34	34	33	29	26	24	21	A	30	30	30	28	27	25	15	10	10	21	24	23	17	25.8	34.4
23-Nov	19	19	20	20	17	9	11	12	7	A	15	23	23	16	15	13	7	6	5	5	7	5	8	4	12.4	23.3
24-Nov	4	6	4	4	4	3	4	4	A	7	8	12	16	16	21	19	14	6	6	5	4	3	6	33	8.9	33.3
25-Nov	36	36	35	36	36	36	34	A	34	33	33	34	34	35	34	34	34	31	33	35	25	16	16	2	31.1	36.4
26-Nov	2	19	22	22	12	24	A	10	4	2	10	11	14	16	25	22	16	11	26	27	9	24	16	12	15.5	27.1
27-Nov	26	24	15	24	24	A	12	4	4	15	18	20	23	24	22	20	17	16	9	5	11	8	10	12	15.8	26.2
28-Nov	8	13	13	11	A	11	6	3	3	4	5	9	9	17	15	8	4	2	5	2	11	3	3	5	7.4	16.6
29-Nov	7	9	10	A	9	5	3	2	4	3	6	7	10	8	13	14	14	14	14	18	19	18	19	19	10.6	19.2
30-Nov	19	20	A	23	21	22	20	16	2	3	6	8	11	11	8	5	3	2	1	3	2	3	2	2	9.1	22.7
	18.3	19.5	19.3	19.6	16.9	17.5	15.2	13.0	13.3	15.2	18.4	21.7	22.8	24.0	24.0	23.8	21.6	17.4	16.4	16.4	16.3	17.5	17.6	17.4	Diurnal Average	
	36.4	36.1	36.6	38.0	36.4	36.0	34.3	35.6	36.8	35.8	37.3	37.4	38.3	40.5	38.9	39.2	37.9	36.4	34.8	35.0	32.4	40.7	41.9	37.8	Diurnal Maximum	

C - Calibration

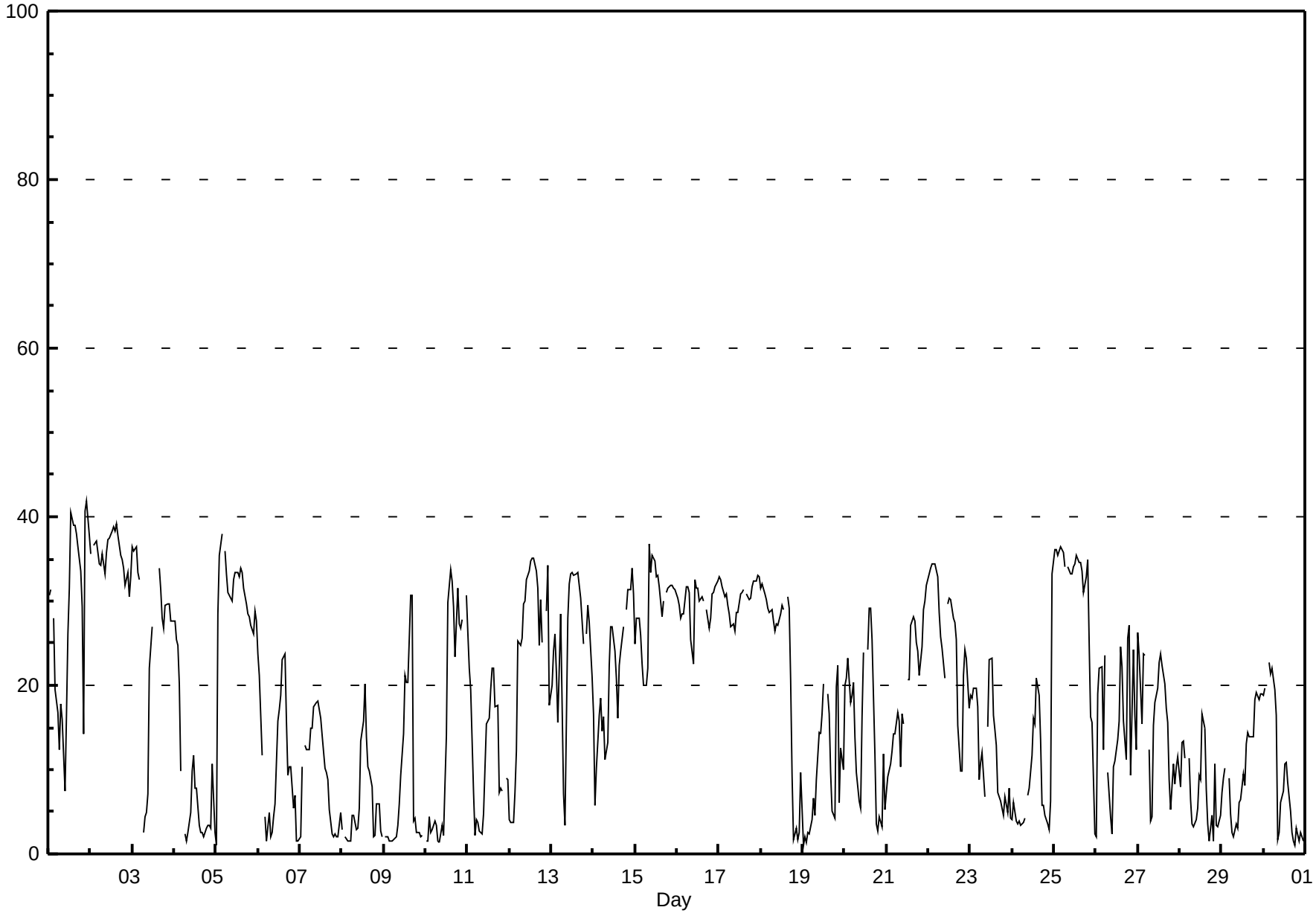
A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

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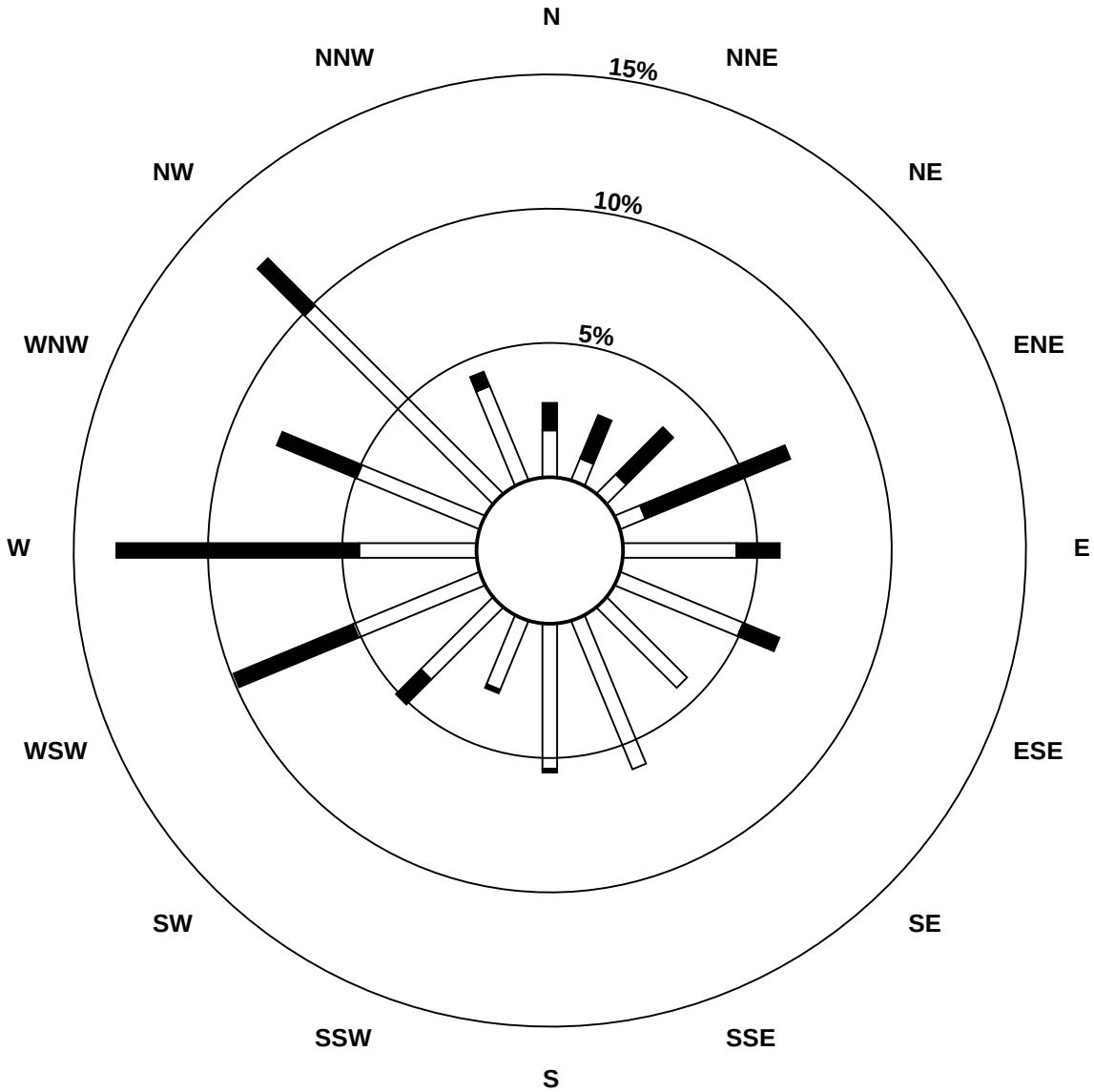
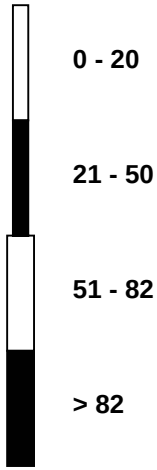
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - November 2010



Pollutant Classes (ppb)



FOCUS
AIR QUALITY MONITORING

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Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - November 2010

Maximum Value: 36.2 ppb on Nov 2 18:00

Minimum Value: 1.0 ppb on Dec 1 00:00

Percentiles: P_1 = 1.3 P_{10} = 3.0 Q_1 = 6.5 Median = 12.7 Q_3 = 25.7 P_{90} = 29.7 P_{99} = 34.7

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	6
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	17	18	19	22	22	21	20	18	15	12	12	11	13	16	20	23	26	29	32	31	28	27	27	27	31.8
2-Nov	27	26	26	30	34	33	32	32	32	32	32	33	33	34	35	36	36	36	36	35	34	33	32	31	36.2
3-Nov	31	31	31	31	31	31	28	24	19	14	11	10	7	7	N	N	N	N	N	N	27	27	27	26	31.4
4-Nov	26	26	26	24	21	21	17	13	10	7	5	4	4	4	4	4	4	4	3	3	2	2	1	1	26.1
5-Nov	1	3	7	11	12	17	21	25	28	30	29	29	29	29	29	30	30	30	29	29	28	27	26	25	30.3
6-Nov	24	22	20	19	16	13	10	7	4	2	2	3	4	6	8	10	11	12	12	12	10	9	6	4	23.6
7-Nov	3	3	3	3	5	6	8	9	11	13	13	14	14	14	14	13	12	10	9	7	5	4	3	2	14.3
8-Nov	2	2	2	2	2	1	2	2	2	2	2	3	4	6	7	8	8	9	8	7	6	5	3	3	8.5
9-Nov	2	2	2	2	2	1	1	1	1	2	2	3	5	7	9	12	13	13	12	11	9	7	5	3	13.1
10-Nov	2	1	2	1	1	2	2	2	2	2	2	2	3	6	9	13	15	17	20	22	24	24	23	23	23.9
11-Nov	23	23	22	19	16	12	11	8	5	3	2	3	5	7	9	11	13	14	14	13	11	11	9	6	22.9
12-Nov	4	3	3	3	4	6	8	11	14	17	21	24	27	29	30	31	31	30	29	27	26	24	23	20	31.5
13-Nov	17	17	16	15	15	15	13	11	11	12	13	15	18	20	22	26	30	30	30	29	28	28	26	23	30.4
14-Nov	20	16	13	13	11	9	8	7	7	8	10	12	14	14	14	15	17	19	18	19	20	22	25	27	27.2
15-Nov	27	28	27	27	25	23	21	20	21	22	23	25	26	28	29	30	30	29	29	28	28	28	29	30	29.8
16-Nov	30	30	29	29	29	28	28	28	26	25	25	25	25	25	25	26	27	28	28	27	27	27	28	28	29.9
17-Nov	29	29	30	30	30	30	30	29	28	27	27	27	27	27	27	27	28	29	29	29	30	30	30	30	30.4
18-Nov	30	31	31	31	30	30	30	29	28	27	27	27	26	26	26	27	26	24	21	17	14	10	9	5	30.9
19-Nov	3	2	1	1	1	1	2	2	2	3	5	6	8	9	11	12	12	11	10	9	8	8	7	6	12.4
20-Nov	7	9	10	10	11	13	13	13	12	10	10	11	10	10	12	15	17	17	16	14	13	10	7	4	17.4
21-Nov	3	3	4	5	6	8	9	10	10	10	11	11	12	13	14	17	20	22	23	23	23	23	24	24	24.1
22-Nov	25	26	27	29	31	32	31	30	28	27	26	25	24	24	24	24	24	23	20	18	16	14	13	12	31.5
23-Nov	11	12	13	15	15	14	13	12	11	11	10	11	11	13	13	14	14	12	11	10	8	6	5	5	15.2
24-Nov	4	4	4	4	4	4	3	3	3	3	4	5	6	7	9	11	10	10	10	9	8	7	5	7	10.6
25-Nov	10	14	18	22	26	30	34	35	34	34	33	33	32	32	32	32	32	32	31	31	29	26	22	18	34.8
26-Nov	15	13	11	9	8	10	10	10	10	9	8	7	6	5	7	8	9	10	12	12	12	13	11	10	14.8
27-Nov	12	12	10	11	13	13	12	12	9	9	10	10	10	12	13	15	17	18	16	14	12	10	8	7	17.8
28-Nov	6	6	6	7	7	7	7	6	6	5	4	4	5	5	6	6	6	6	6	5	4	3	2	1	7.4
29-Nov	2	2	3	4	4	4	4	4	4	3	3	3	3	4	5	6	7	8	9	10	11	13	14	15	14.9
30-Nov	16	16	17	18	18	18	18	17	15	13	12	10	8	7	5	4	4	4	4	3	3	2	1	1	18.3
Diurnal Maximums	30.9	31.1	31.4	31.4	33.8	33.4	34.0	34.8	34.5	33.9	33.3	32.8	33.1	34.2	35.0	35.6	36.1	36.2	35.8	35.1	34.2	33.1	31.8	31.1	

N - Not Valid

PASZA
Peace Air Shed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.55 ppm on Nov 3 09:00 Maximum Daily Average: 0.48 ppm on Nov 8

Minimum Value: 0.1 ppm on Nov 22 02:00 Minimum Daily Average: 0.12 ppm on Nov 2
Maximum Diurnal Average: 0.41 ppm at hour 9 Minimum Diurnal Average: 0.16 ppm at hour 4
Monthly Average: 0.257 ppm Percentiles: P_1 = 0.09 P_{10} = 0.11 Q_1 = 0.15 Median = 0.19 Q_3 = 0.31 P_{90} = 0.46 P_{99} = 0.98

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0.1	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.4	0.5	0.1	0.1	0.1	0.20	0.46
2-Nov	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	C	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.12	0.15
3-Nov	0.1	0.1	0.1	0.1	0.1	A	1.0	1.5	1.6	0.9	0.4	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.35	1.55
4-Nov	0.1	0.1	0.1	0.1	0.1	A	0.7	0.7	0.8	0.6	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.33	0.80
5-Nov	0.2	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.13	0.22
6-Nov	0.1	0.2	0.2	A	0.3	0.5	0.3	0.5	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.32	0.58
7-Nov	0.2	0.2	A	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.23	0.50
8-Nov	0.6	A	0.3	0.2	0.1	0.2	0.8	1.1	1.4	0.9	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.7	0.5	0.3	0.5	0.5	0.48	1.43
9-Nov	A	0.3	0.4	0.3	0.2	0.2	0.3	0.5	0.6	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.9	1.2	1.0	0.7	0.5	0.4	A	0.43	1.19
10-Nov	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.3	0.4	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.20	0.38
11-Nov	0.1	0.2	0.2	0.2	0.3	0.4	0.5	1.0	0.7	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.3	A	0.2	0.2	0.32	0.99
12-Nov	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.18	0.27
13-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.2	0.3	0.21	0.45
14-Nov	0.4	0.6	0.6	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.26	0.64
15-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.1	0.16	0.21
16-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.12	0.21
17-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.17
18-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.3	0.3	0.3	0.5	0.5	0.4	0.3	0.19	0.51
19-Nov	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.2	0.22	0.36
20-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.1	0.2	0.7	0.6	0.7	0.8	0.5	0.3	0.2	0.30	0.78
21-Nov	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.15	0.25
22-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.16	0.30
23-Nov	0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.4	A	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.31	0.43
24-Nov	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.5	A	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	0.8	0.7	0.9	0.5	0.4	0.5	0.2	0.44	0.88
25-Nov	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.19	0.56
26-Nov	0.5	0.3	0.2	0.2	0.2	0.3	A	0.4	0.7	0.5	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.4	0.3	0.2	0.4	0.31	0.66
27-Nov	0.2	0.3	0.3	0.2	0.2	A	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.23	0.31
28-Nov	0.2	0.2	0.2	0.2	A	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.5	0.5	0.4	0.3	0.2	0.36	0.59
29-Nov	0.2	0.2	0.2	A	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.29	0.44
30-Nov	0.3	0.3	A	0.2	0.2	0.3	0.3	0.3	0.7	0.6	0.4	0.4	0.5	0.5	0.4	0.4	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.41	0.66
	0.21	0.20	0.19	0.16	0.17	0.19	0.28	0.37	0.41	0.34	0.28	0.23	0.22	0.22	0.21	0.21	0.25	0.31	0.32	0.33	0.31	0.26	0.25	0.23	Diurnal Average	
	0.58	0.64	0.56	0.32	0.30	0.51	0.99	1.55	1.55	0.90	0.74	0.46	0.47	0.47	0.41	0.48	0.60	0.86	1.19	0.99	0.78	0.51	0.48	0.56	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

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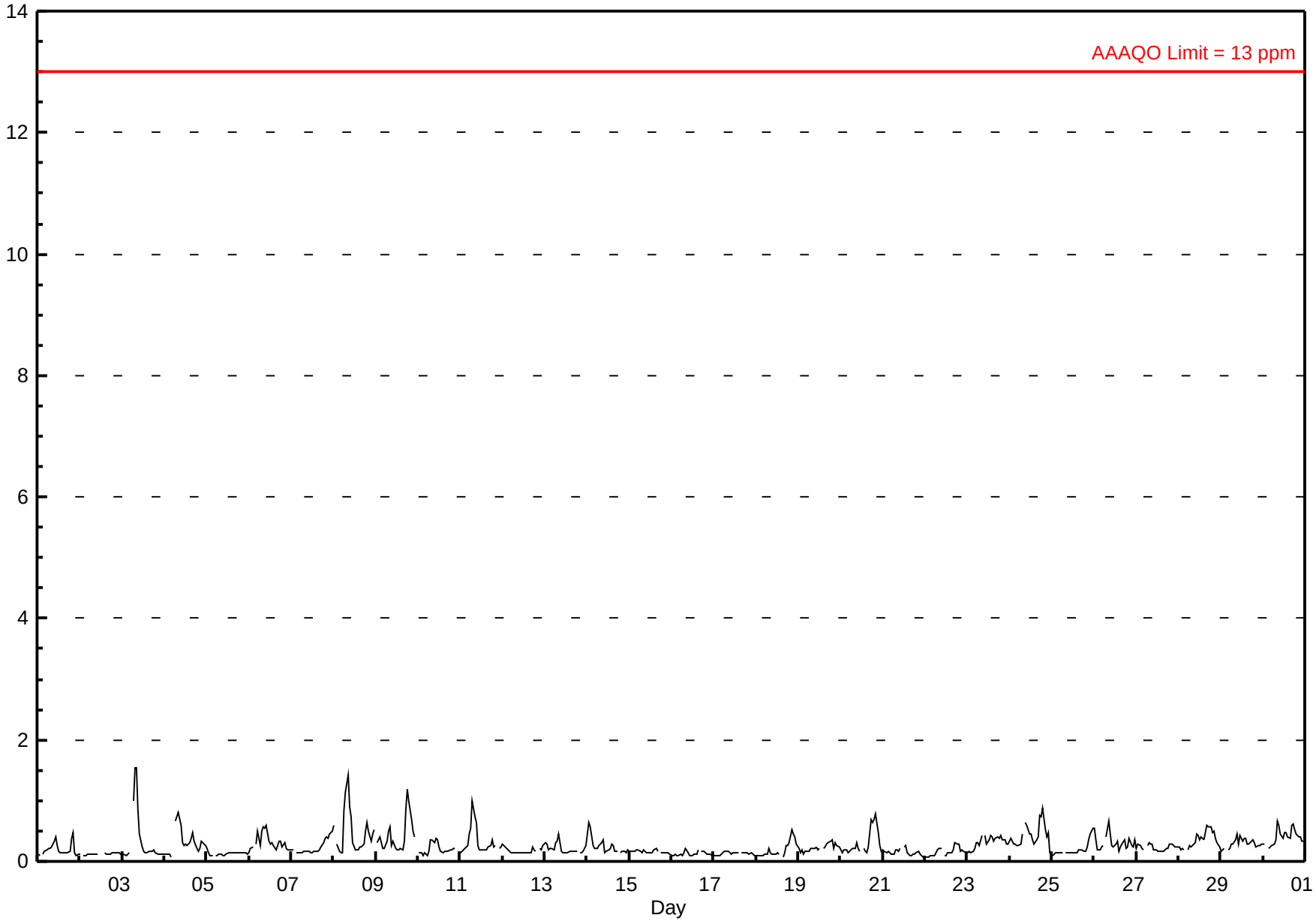
Peace Air Shed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010

Maximum Value: 5.17 ppm on Nov 3 07:00

Maximum Daily Average: 0.86 ppm on Nov 9

Minimum Value: 0.1 ppm on Nov 16 01:00

Minimum Daily Average: 0.16 ppm on Nov 2

Maximum Diurnal Average: 0.79 ppm at hour 9

Minimum Diurnal Average: 0.25 ppm at hour 5

Monthly Average: 0.410 ppm

Percentiles: P_1 = 0.10 P_{10} = 0.15 Q_1 = 0.20 Median = 0.27 Q_3 = 0.49 P_{90} = 0.72 P_{99} = 2.33

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0.2	0.2	A	0.3	0.2	0.3	0.3	0.3	0.4	0.6	0.6	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.8	0.3	0.2	0.2	0.30	0.75
2-Nov	0.2	A	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.21
3-Nov	0.2	0.2	0.2	0.3	0.2	A	5.2	2.1	2.4	1.3	0.8	0.3	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.68	5.17
4-Nov	0.2	0.2	0.2	0.2	0.1	A	3.3	1.1	1.1	1.1	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.5	0.4	0.2	0.4	0.5	0.5	0.5	0.59	3.29
5-Nov	0.3	0.2	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.29
6-Nov	0.2	0.5	0.3	A	0.8	1.1	0.4	2.0	0.8	0.8	0.7	0.6	0.4	0.4	0.3	0.3	0.5	0.5	0.6	0.3	0.5	0.3	0.3	0.5	0.56	1.99
7-Nov	0.3	0.3	A	0.3	0.2	0.3	0.2	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.7	0.5	0.6	0.7	0.34	0.71
8-Nov	0.8	A	0.4	0.2	0.2	0.2	2.3	1.8	2.3	1.2	1.0	0.5	0.2	0.2	0.2	0.3	0.3	0.4	0.9	1.1	1.1	0.6	0.7	0.8	0.78	2.34
9-Nov	A	0.6	0.5	0.4	0.3	0.4	0.7	1.0	4.2	0.6	0.5	0.2	0.3	0.2	0.2	0.2	0.7	1.4	2.3	1.2	1.1	1.3	0.5	A	0.86	4.18
10-Nov	0.2	0.3	0.2	0.1	0.2	0.2	0.4	1.1	0.6	0.5	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	A	0.2	0.32	1.09
11-Nov	0.2	0.2	0.2	0.3	0.3	1.5	1.6	2.6	1.1	2.0	0.3	0.3	0.2	0.3	0.4	0.3	0.6	0.4	0.5	0.4	0.4	A	0.3	0.4	0.64	2.60
12-Nov	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.2	A	0.3	0.3	0.4	0.22	0.42
13-Nov	0.5	0.5	0.2	0.3	0.3	0.4	0.6	0.4	1.0	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.4	0.30	1.01
14-Nov	0.8	0.9	0.8	0.5	0.3	0.3	0.3	0.4	0.5	0.5	0.2	0.2	0.3	0.3	0.4	0.4	0.2	0.2	A	0.2	0.3	0.2	0.2	0.3	0.36	0.90
15-Nov	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.40
16-Nov	0.1	0.2	0.2	0.1	0.1	0.3	0.2	0.3	0.7	0.3	0.2	0.2	0.2	0.2	0.2	1.0	A	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.24	0.98
17-Nov	0.2	0.2	0.2	0.2	0.2	0.7	0.4	0.3	0.3	0.4	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.23	0.70
18-Nov	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.6	0.3	A	0.1	0.2	0.5	0.3	0.4	1.1	0.7	0.6	1.1	0.36	1.13
19-Nov	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	A	0.3	0.3	0.5	0.5	0.6	0.5	0.4	0.4	0.3	0.3	0.31	0.60
20-Nov	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	1.0	0.3	0.3	A	0.3	0.2	0.2	0.4	2.4	0.9	0.8	2.3	0.8	0.4	0.2	0.54	2.40
21-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	A	0.3	0.3	0.3	0.1	0.1	0.2	0.3	0.2	0.5	0.2	0.1	0.1	0.20	0.50
22-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	A	0.1	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.22	0.49
23-Nov	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.6	A	0.5	0.6	0.6	0.5	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.42	0.61
24-Nov	0.4	0.5	0.9	1.1	0.5	0.3	0.4	0.7	A	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.6	1.6	0.9	1.2	0.8	0.5	0.6	0.5	0.67	1.58
25-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.6	0.24	0.62
26-Nov	0.7	0.7	0.3	0.2	0.4	0.9	A	0.7	2.0	0.7	0.4	0.5	0.5	0.6	0.2	0.3	0.4	1.4	0.3	0.4	0.6	0.5	0.3	0.5	0.57	2.02
27-Nov	0.4	0.5	0.3	0.3	0.3	A	0.4	0.4	0.6	0.8	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.33	0.77
28-Nov	0.3	0.2	0.3	0.2	A	0.2	0.7	0.3	0.3	0.4	0.5	0.5	0.4	0.5	0.4	0.7	0.7	0.7	0.7	0.7	0.8	0.5	0.4	0.4	0.48	0.77
29-Nov	0.2	0.2	0.3	A	0.2	0.3	0.4	0.4	0.7	0.6	0.4	0.8	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.40	0.76
30-Nov	0.4	0.5	A	0.3	0.4	0.7	0.5	0.7	0.9	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.7	0.8	0.7	0.6	0.6	0.5	0.4	0.4	0.57	0.85
	0.29	0.30	0.27	0.25	0.25	0.37	0.70	0.68	0.79	0.57	0.38	0.34	0.30	0.30	0.28	0.31	0.35	0.54	0.49	0.44	0.53	0.40	0.33	0.36	Diurnal Average	
	0.81	0.90	0.95	1.14	0.80	1.54	5.17	2.60	4.18	2.01	0.99	0.76	0.70	0.55	0.59	0.98	0.70	2.40	2.33	1.24	2.25	1.30	0.67	1.13	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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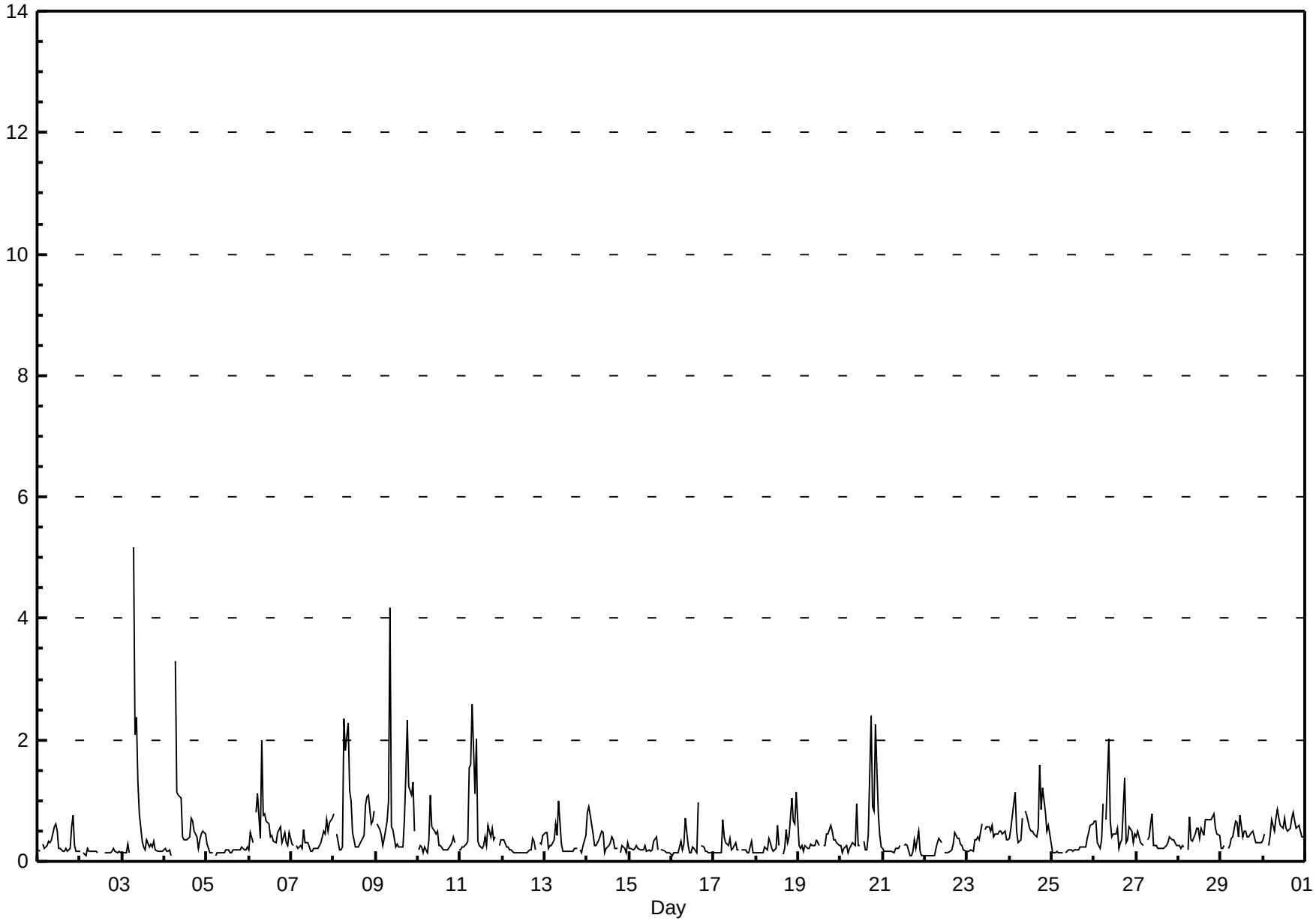
Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010



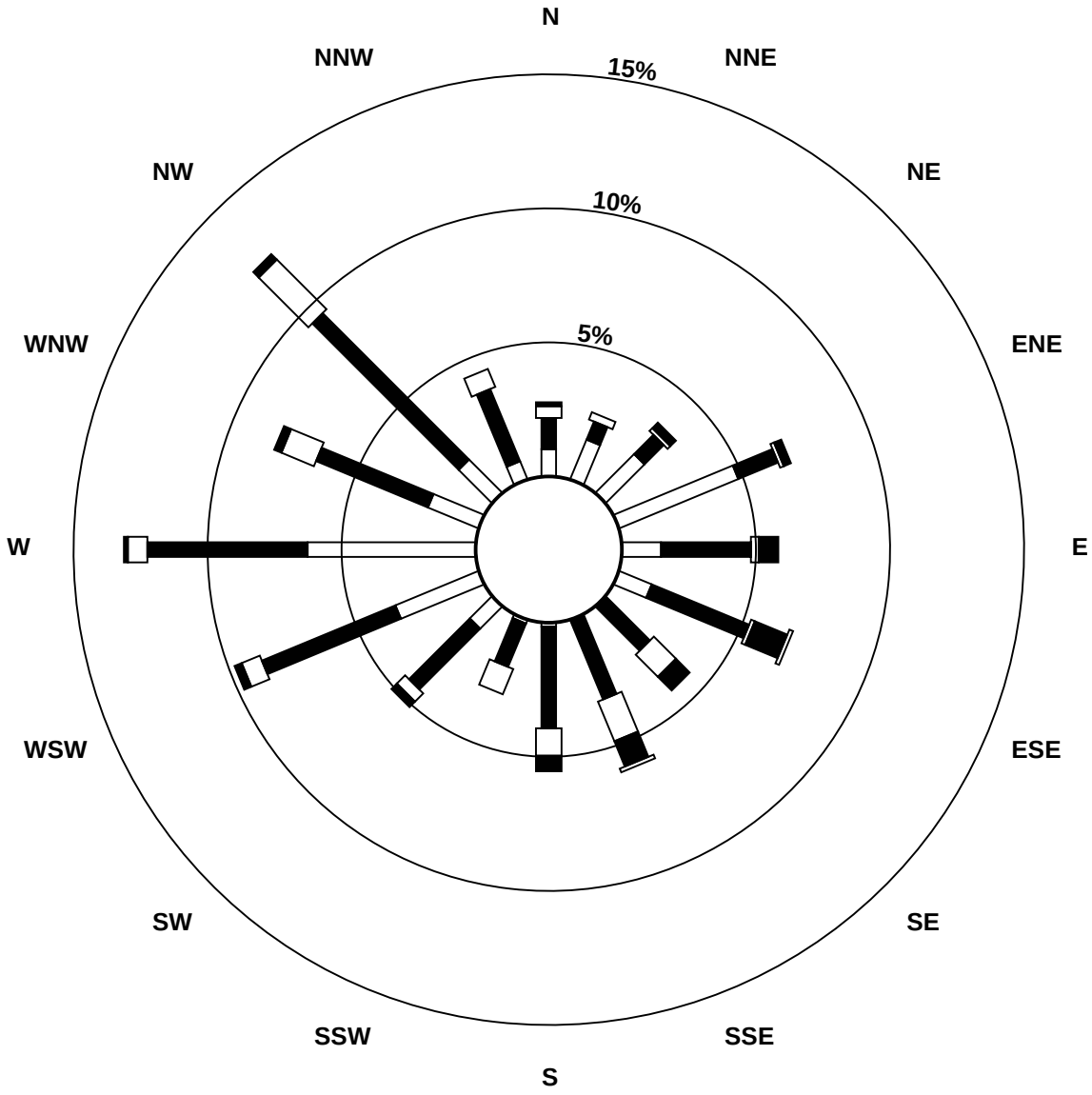
FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010



Pollutant Classes (ppm)

- 0 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 10
- > 10

FOCUS AIR QUALITY MONITORING

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Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.83 ppm on Nov 3 13:00

Minimum Value: 0.08 ppm on Nov 22 06:00

Percentiles: P_1 = 0.10 P_{10} = 0.13 Q_1 = 0.16 Median = 0.22 Q_3 = 0.33 P_{90} = 0.45 P_{99} = 0.71

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	6
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
2-Nov	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	N	N	N	N	N	N	0.1	0.1	0.1	0.1	0.1	0.21
3-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	0.8	0.8	0.8	0.8	0.7	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.83
4-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.52
5-Nov	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.26
6-Nov	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.47
7-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.36
8-Nov	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.72
9-Nov	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.7	0.71
10-Nov	0.7	0.6	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.69
11-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.51
12-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
13-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
14-Nov	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.35
15-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.17
16-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
17-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
18-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.33
19-Nov	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.34
20-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.50
21-Nov	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.49
22-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
23-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.39
24-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.57
25-Nov	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.51
26-Nov	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.38
27-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
28-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.49
29-Nov	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.40
30-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.49
Diurnal Maximums	0.69	0.58	0.45	0.41	0.37	0.35	0.38	0.47	0.65	0.76	0.81	0.82	0.83	0.74	0.64	0.52	0.47	0.47	0.48	0.53	0.58	0.62	0.65	0.71	

N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

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Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.38 ppm on Nov 9 10:00 Maximum Daily Average: 2.79 ppm on Nov 23

Minimum Value: 1.9 ppm on Nov 14 12:00 Minimum Daily Average: 1.96 ppm on Nov 2
Maximum Diurnal Average: 2.58 ppm at hour 10 Minimum Diurnal Average: 2.14 ppm at hour 16
Monthly Average: 2.278 ppm Percentiles: P_1 = 1.90 P_{10} = 1.97 Q_1 = 2.03 Median = 2.16 Q_3 = 2.44 P_{90} = 2.75 P_{99} = 3.25

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2.0	2.0	A	2.0	2.1	2.0	2.2	2.0	2.1	2.3	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.1	2.1	2.0	1.9	2.0	2.02	2.27
2-Nov	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.96	2.13
3-Nov	2.0	2.0	2.0	2.0	2.0	A	2.3	2.6	2.7	2.6	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.12	2.71
4-Nov	2.0	2.1	2.1	2.1	2.2	A	2.4	2.5	2.5	3.1	2.6	2.4	2.4	2.3	2.4	2.4	2.4	2.3	2.2	2.3	2.4	2.5	2.5	2.4	2.38	3.06
5-Nov	2.5	2.1	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.0	2.00	2.47
6-Nov	2.0	2.1	2.2	A	2.3	2.4	2.8	2.5	2.4	2.4	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.26	2.77
7-Nov	2.3	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.4	2.5	2.6	2.6	2.6	2.21	2.65
8-Nov	2.8	A	2.5	2.5	2.5	2.6	2.8	3.0	3.1	3.2	3.0	2.4	2.3	2.2	2.2	2.2	2.5	2.6	2.8	2.7	2.4	2.2	2.3	2.4	2.58	3.17
9-Nov	A	2.5	3.0	2.9	2.7	2.6	2.7	2.7	2.7	6.4	3.6	2.2	2.2	2.1	2.1	2.1	2.1	2.4	2.8	2.6	2.8	2.6	2.7	A	2.75	6.38
10-Nov	2.4	2.5	2.6	3.0	2.7	2.8	3.2	2.9	3.3	4.5	3.8	2.9	2.6	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	A	2.0	2.60	4.48
11-Nov	2.1	2.3	2.3	2.5	2.7	2.6	2.8	2.9	3.1	2.8	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.2	A	2.2	2.3	2.37	3.11
12-Nov	2.4	2.4	2.8	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	A	2.0	2.1	2.1	2.12	2.78
13-Nov	2.2	2.3	2.2	2.2	2.3	2.9	2.3	2.4	2.8	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	2.0	2.0	2.0	2.13	2.85
14-Nov	2.2	2.4	2.3	2.2	2.5	2.9	2.3	2.6	2.6	2.5	1.9	1.9	1.9	1.9	2.1	2.0	1.9	1.9	A	1.9	1.9	1.9	2.0	2.0	2.16	2.94
15-Nov	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.10
16-Nov	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	A	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.03	2.08
17-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	A	2.1	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.07	2.11
18-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.0	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.13	2.34
19-Nov	2.4	2.7	2.8	2.7	2.6	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	A	2.2	2.2	2.2	2.2	2.4	2.3	2.2	2.3	2.3	2.2	2.35	2.76
20-Nov	2.2	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.4	2.4	2.2	2.2	A	2.2	2.1	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.5	2.26	2.60
21-Nov	2.5	2.5	2.4	2.3	2.3	2.3	2.3	2.5	2.5	2.3	2.4	A	2.3	2.3	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.25	2.55
22-Nov	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.12	2.30
23-Nov	2.2	2.2	2.2	2.2	2.5	3.8	3.1	2.7	3.2	A	2.8	3.2	2.8	2.8	2.6	2.5	2.5	2.5	2.7	3.0	3.3	3.1	3.1	3.0	2.79	3.83
24-Nov	3.1	3.1	3.0	2.9	3.0	3.1	2.9	3.0	A	2.9	3.0	2.6	2.6	2.6	2.3	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.0	2.74	3.14
25-Nov	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	1.99	2.27
26-Nov	2.3	2.2	2.1	2.1	2.2	2.1	A	2.2	2.3	2.2	2.2	2.2	2.3	2.4	2.2	2.2	2.4	2.3	2.1	2.1	2.2	2.1	2.1	2.2	2.21	2.37
27-Nov	2.1	2.2	2.2	2.2	2.2	A	2.4	2.4	2.3	2.3	2.4	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.21	2.43
28-Nov	2.2	2.1	2.1	2.1	A	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.4	2.4	2.5	2.6	2.8	2.6	2.5	2.5	2.5	2.5	2.6	2.38	2.82
29-Nov	2.9	3.0	2.9	A	2.9	3.0	3.1	3.1	3.2	3.2	3.0	2.9	2.7	2.7	2.7	2.4	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.65	3.23
30-Nov	2.2	2.2	A	2.1	2.2	2.1	2.2	2.3	2.5	2.7	2.7	2.5	2.8	2.8	2.5	2.5	2.6	2.7	2.6	2.5	2.5	2.5	2.7	2.6	2.49	2.84
	2.24	2.26	2.29	2.25	2.31	2.38	2.37	2.39	2.43	2.58	2.42	2.27	2.22	2.18	2.15	2.14	2.16	2.20	2.23	2.24	2.25	2.23	2.28	2.23	Diurnal Average	
	3.05	3.09	3.04	2.98	3.05	3.83	3.23	3.05	3.26	6.38	3.77	3.24	2.79	2.84	2.69	2.60	2.64	2.82	2.84	3.01	3.29	3.07	3.11	3.00	Diurnal Maximum	

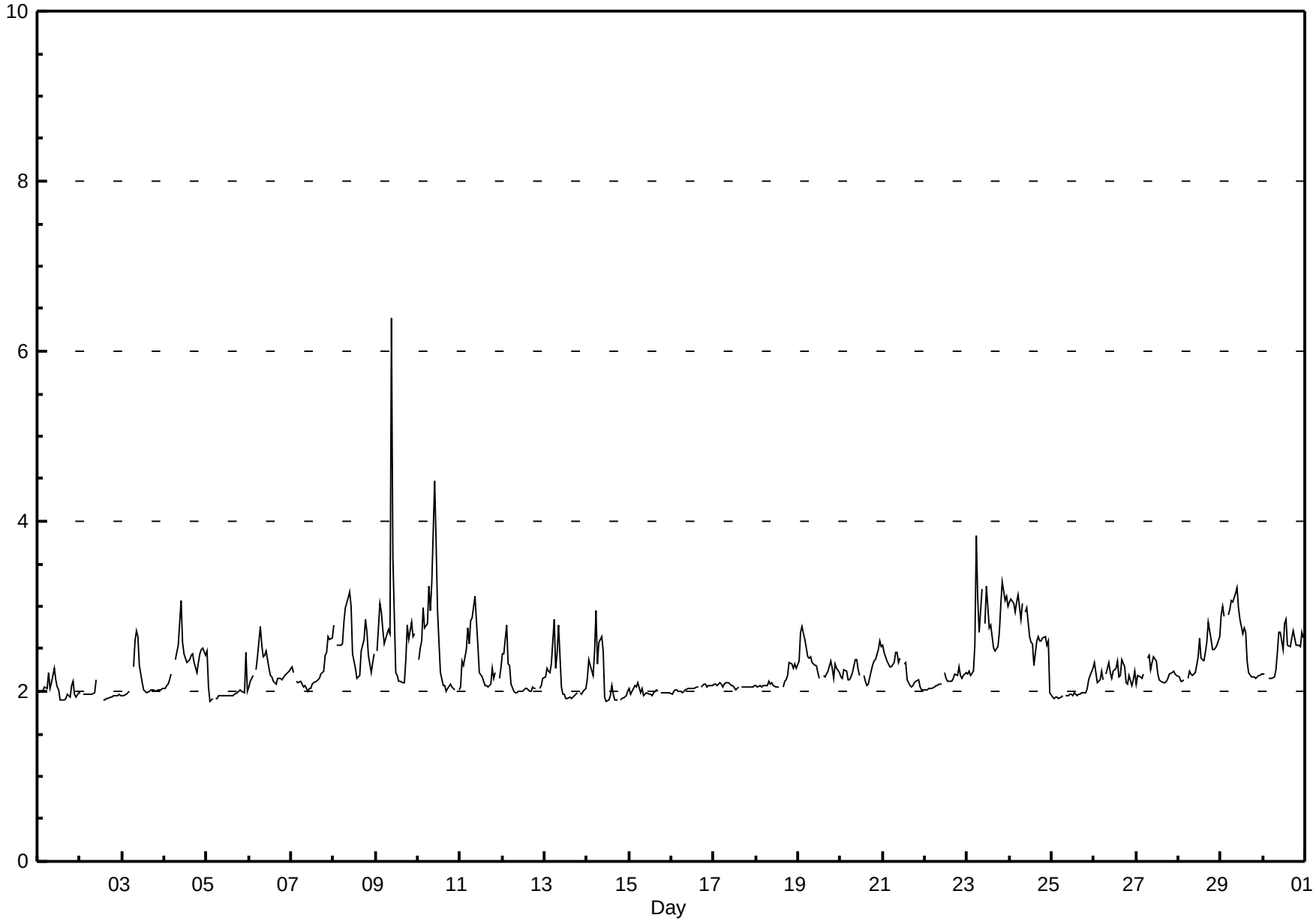
C - Calibration A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2010

Maximum Value: 10.69 ppm on Nov 10 10:00

Maximum Daily Average: 3.52 ppm on Nov 10

Minimum Value: 1.9 ppm on Nov 14 12:00

Maximum Diurnal Average: 3.21 ppm at hour 10

Monthly Average: 2.509 ppm

Minimum Daily Average: 2.02 ppm on Nov 2

Minimum Diurnal Average: 2.26 ppm at hour 16

Percentiles: P_1 = 1.93 P_{10} = 2.00 Q_1 = 2.15 Median = 2.35 Q_3 = 2.68 P_{90} = 3.18 P_{99} = 4.54

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2.0	2.0	A	2.1	2.1	2.1	2.7	2.1	3.1	3.1	2.3	2.1	2.1	2.0	1.9	1.9	1.9	2.4	2.0	2.2	2.3	2.1	2.0	2.1	2.20	3.11
2-Nov	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	C	C	C	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.02	2.89
3-Nov	2.0	2.0	2.0	2.0	2.0	A	2.5	2.8	3.0	3.1	2.7	2.5	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.23	3.09
4-Nov	2.1	2.1	2.2	2.3	2.3	A	2.5	2.6	2.7	3.6	3.0	2.6	2.6	2.5	2.6	2.6	2.7	2.7	2.5	2.4	2.6	2.6	2.8	2.8	2.58	3.60
5-Nov	2.8	2.7	1.9	1.9	A	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.3	2.0	2.0	4.5	2.0	2.19	4.55
6-Nov	2.1	2.4	2.7	A	2.4	2.7	3.0	2.9	2.5	2.5	2.6	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.5	2.7	2.5	2.3	2.3	2.3	2.43	3.05
7-Nov	2.3	2.4	A	2.5	2.5	2.5	2.4	2.4	2.6	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.6	2.7	3.2	2.8	2.8	2.40	3.21
8-Nov	2.9	A	2.7	2.6	2.6	2.6	3.2	3.1	3.3	3.3	3.4	2.6	2.3	2.3	2.2	2.3	2.7	2.7	3.3	3.0	2.8	2.4	2.6	2.5	2.76	3.37
9-Nov	A	3.1	3.1	3.1	2.8	2.7	3.0	2.9	3.3	9.5	6.9	2.5	2.3	2.3	2.2	2.2	2.4	2.8	4.0	3.8	3.6	2.8	3.0	A	3.38	9.47
10-Nov	2.8	2.9	3.1	4.0	3.8	3.5	4.7	3.6	5.8	10.7	5.6	4.3	3.4	2.6	2.3	2.2	2.1	2.6	2.3	2.2	2.3	2.1	A	2.1	3.52	10.69
11-Nov	2.4	3.7	3.4	3.7	3.3	2.9	3.6	3.1	3.8	3.8	4.0	2.3	2.2	2.2	2.2	2.5	2.2	2.2	3.0	2.4	2.7	A	2.4	2.4	2.89	3.99
12-Nov	2.9	2.6	3.3	2.7	2.7	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.2	A	2.2	2.5	2.4	2.28	3.33
13-Nov	2.4	2.7	2.5	2.8	3.4	4.6	2.5	3.5	4.1	2.5	2.1	2.2	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	2.0	2.0	2.2	2.3	2.50	4.59
14-Nov	2.3	3.6	2.4	2.5	2.7	3.4	2.8	3.3	3.2	3.2	2.0	1.9	2.0	2.2	2.3	2.1	1.9	1.9	A	1.9	2.0	2.0	2.0	2.1	2.42	3.60
15-Nov	2.2	2.0	2.8	2.3	2.2	2.5	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.3	2.2	A	2.2	2.2	2.2	2.3	2.4	2.2	2.19	2.80
16-Nov	2.0	2.5	2.4	2.5	2.2	2.4	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.4	2.5	2.5	A	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.30	2.52
17-Nov	2.4	2.4	2.3	2.4	2.5	2.3	2.4	2.4	2.4	2.5	2.3	2.3	2.2	2.4	2.2	A	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.33	2.46
18-Nov	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.5	2.4	2.2	2.4	2.2	A	2.1	2.2	2.2	2.2	2.5	2.6	2.4	2.6	2.4	2.32	2.62
19-Nov	2.5	2.9	3.0	2.8	2.8	2.4	2.4	2.5	2.4	2.7	2.7	2.3	2.2	A	2.2	2.2	2.4	2.3	2.5	2.5	2.4	2.4	2.4	2.2	2.48	2.96
20-Nov	2.3	2.2	2.4	2.4	2.2	2.2	2.2	2.3	3.4	3.4	2.5	2.2	A	2.3	2.5	2.4	2.1	2.5	2.4	2.4	2.5	4.1	2.7	2.7	2.53	4.08
21-Nov	2.6	2.5	2.4	2.4	2.3	2.4	2.4	2.6	2.6	2.4	2.4	A	2.4	2.5	2.4	2.1	2.1	2.1	2.2	2.3	2.2	2.3	2.0	2.0	2.32	2.59
22-Nov	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.1	2.1	2.1	A	2.3	2.2	2.2	2.1	2.1	2.2	2.3	2.2	2.7	2.3	2.2	2.3	2.3	2.19	2.73
23-Nov	2.3	2.3	2.2	2.3	3.1	4.4	3.6	3.2	3.4	A	3.1	3.8	3.3	3.0	2.8	2.6	2.6	2.7	2.9	3.3	3.4	3.5	3.4	3.2	3.06	4.44
24-Nov	3.2	3.2	3.3	3.1	3.4	3.2	3.2	3.3	A	3.2	3.1	3.1	2.7	2.7	2.5	2.7	2.8	2.9	2.7	2.7	3.5	2.6	2.6	2.5	2.97	3.47
25-Nov	2.0	2.0	2.0	1.9	1.9	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.5	2.04	2.48
26-Nov	2.5	2.5	2.1	2.2	2.3	2.4	A	2.4	2.9	2.4	2.4	2.3	2.5	2.5	2.2	2.3	2.6	2.4	2.2	2.2	2.4	2.3	2.3	2.4	2.38	2.92
27-Nov	2.3	2.4	2.4	2.2	2.8	A	2.6	2.7	2.5	2.4	2.5	2.4	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.35	2.84
28-Nov	2.2	2.2	2.2	2.2	A	2.2	2.4	2.3	2.2	2.3	2.4	2.6	2.7	2.5	2.5	2.7	2.7	3.3	2.8	2.6	2.7	2.6	2.6	2.7	2.49	3.28
29-Nov	3.0	3.1	2.9	A	3.0	3.0	3.1	3.1	3.3	3.3	3.1	2.9	2.8	2.8	2.8	2.5	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.72	3.28
30-Nov	2.2	2.2	A	2.2	2.4	2.2	2.3	2.5	2.6	3.3	2.8	2.6	4.4	3.5	2.6	2.6	2.8	2.8	2.7	2.6	2.7	2.7	3.1	3.2	2.74	4.38
	2.39	2.53	2.52	2.47	2.57	2.63	2.61	2.62	2.82	3.21	2.81	2.45	2.41	2.34	2.26	2.26	2.27	2.37	2.44	2.44	2.47	2.43	2.52	2.39	Diurnal Average	
	3.17	3.66	3.43	3.98	3.79	4.59	4.73	3.58	5.83	10.69	6.92	4.27	4.38	3.52	2.82	2.72	2.78	3.28	3.97	3.79	3.61	4.08	4.55	3.19	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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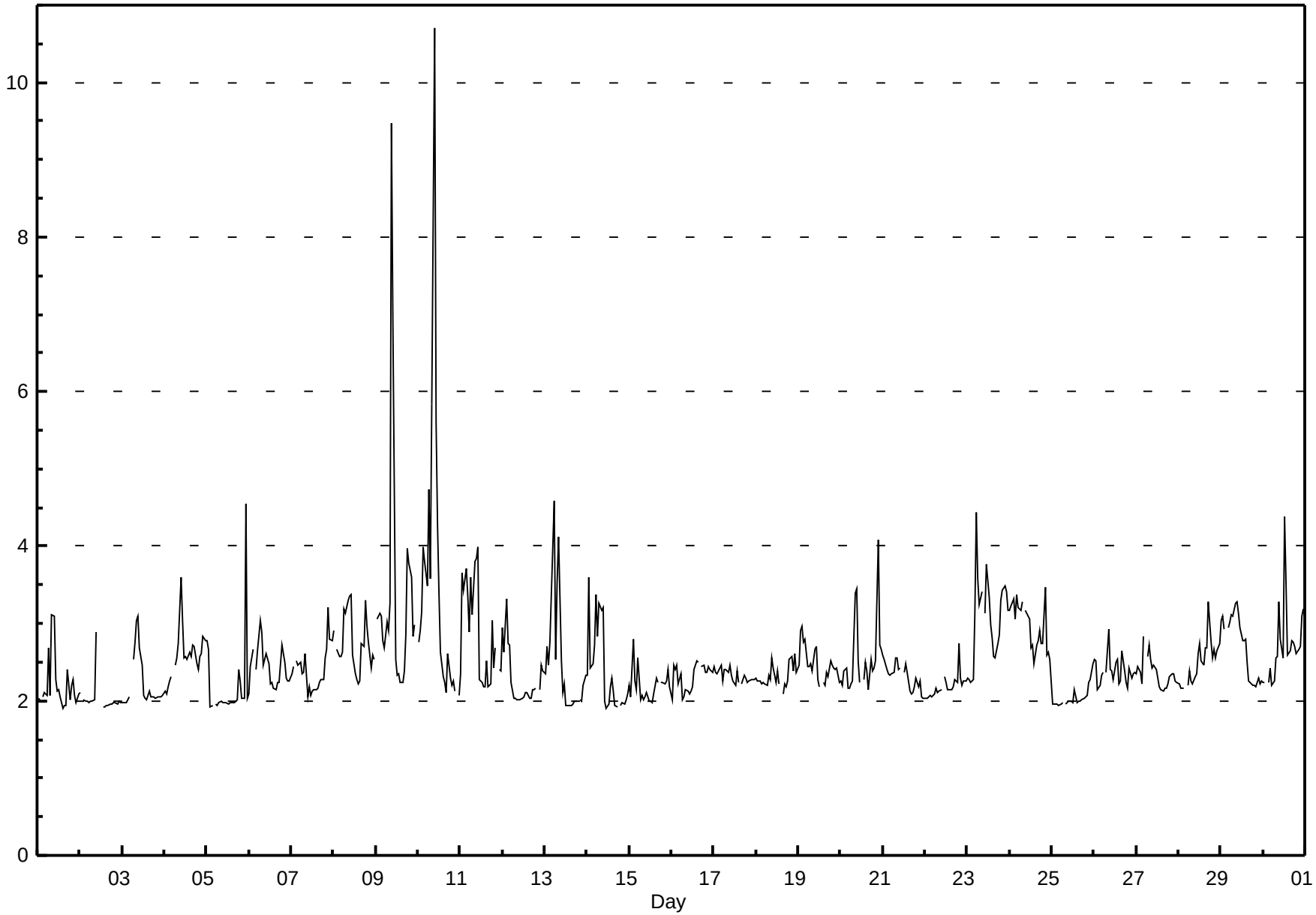
Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

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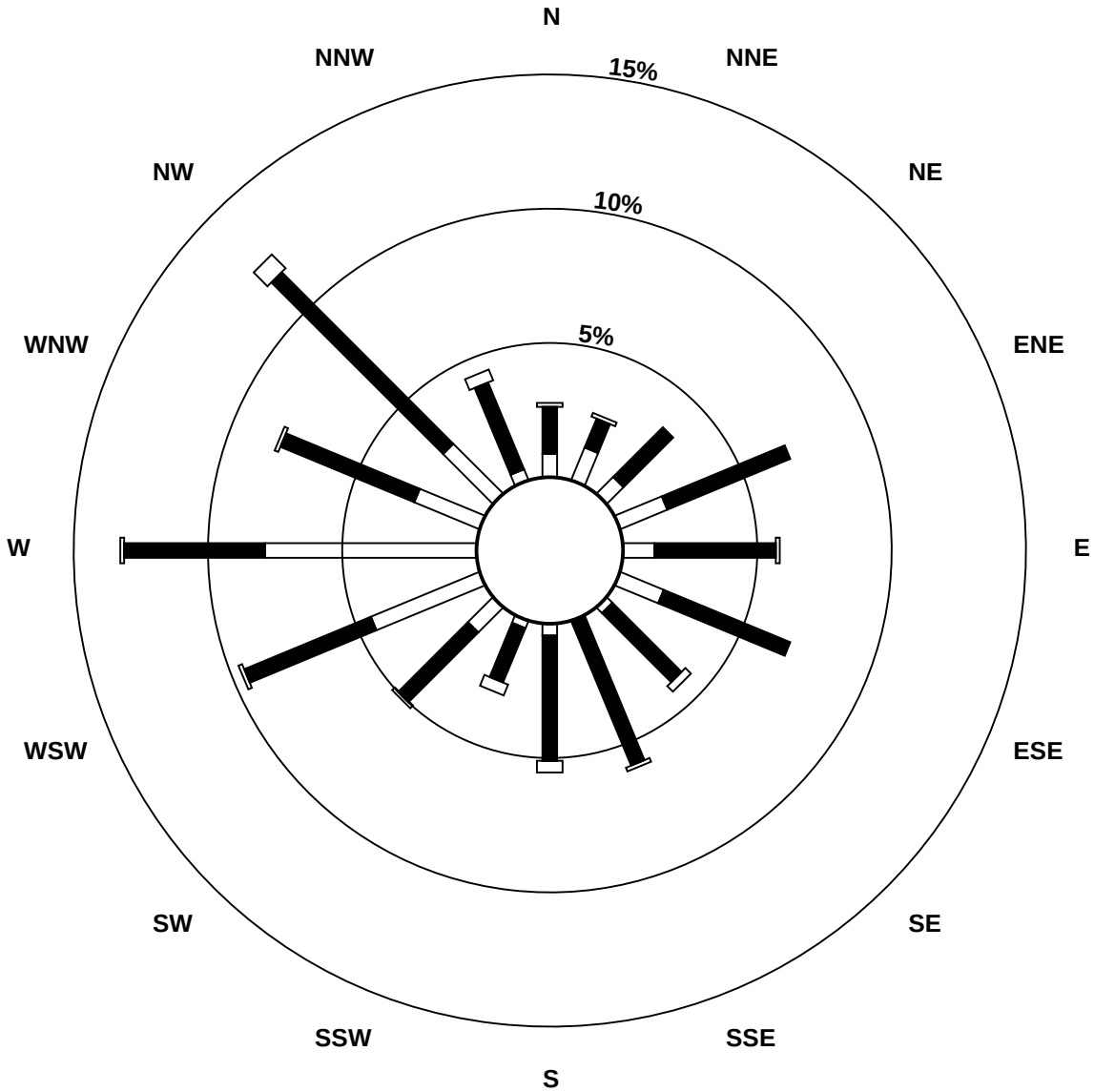
Pollutant Rose

Total Hydrocarbons (THC) - ppm

Henry Pirker - November 2010



Pollutant Classes (ppm)

- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

FOCUS AIR QUALITY MONITORING

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Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Henry Pirker - November 2010

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 58.0 $\mu g/m^3$ on Nov 24 20:00
Maximum Daily Average: 20.2 $\mu g/m^3$ on Nov 24

Minimum Value: 0 $\mu g/m^3$ on Nov 1 06:00
Maximum Diurnal Average: 12.0 $\mu g/m^3$ at hour 19
Monthly Average: 9.18 $\mu g/m^3$

Minimum Daily Average: 2.1 $\mu g/m^3$ on Nov 16
Minimum Diurnal Average: 6.9 $\mu g/m^3$ at hour 5
Percentiles: P_1 = 0.0 P_{10} = 1.9 Q_1 = 3.5 Median = 7.5 Q_3 = 13.1 P_{90} = 19.0 P_{99} = 27.3

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	5	5	2	3	1	0	3	10	8	8	9	9	9	1	1	3	4	3	3	5	16	13	6	5	5.5	15.9
2-Nov	3	5	5	1	1	3	3	2	3	4	4	2	4	2	2	5	2	4	4	3	6	2	3	5	3.2	5.7
3-Nov	5	3	5	4	3	5	6	14	22	17	19	16	8	4	3	5	5	4	4	3	3	7	4	4	7.3	21.8
4-Nov	5	3	6	6	6	4	8	10	11	14	13	14	13	13	18	23	22	21	16	12	11	11	16	21	12.3	23.2
5-Nov	12	11	3	0	2	1	2	3	0	0	3	0	0	3	0	3	4	3	2	4	3	2	3	1	2.8	12.4
6-Nov	4	3	9	5	7	7	6	8	10	9	14	20	17	20	30	15	13	12	12	9	11	13	13	10	11.5	30.0
7-Nov	9	8	11	9	10	9	7	8	11	11	13	11	10	10	12	16	14	14	14	17	20	17	15	18	12.2	20.0
8-Nov	19	21	17	15	17	15	14	18	23	23	24	18	13	9	7	7	9	8	15	17	12	7	6	9	14.3	24.3
9-Nov	7	5	11	13	10	9	9	12	13	12	8	9	5	4	9	11	9	13	25	28	27	30	22	20	13.5	30.1
10-Nov	14	12	10	9	8	7	10	12	12	13	12	16	15	11	5	6	6	10	9	7	8	7	7	9	9.7	15.9
11-Nov	7	6	7	10	11	13	15	18	22	22	19	19	15	11	9	13	12	10	16	15	18	17	14	15	13.9	21.9
12-Nov	19	16	19	19	13	9	4	4	2	3	4	4	3	2	4	4	4	3	5	2	4	6	6	7	6.8	19.0
13-Nov	9	8	8	8	10	8	5	6	9	9	3	4	3	2	2	2	3	3	3	3	3	3	4	4	5.1	9.7
14-Nov	6	10	14	10	7	6	4	4	6	8	5	1	3	2	3	3	3	1	4	1	0	2	1	3	4.5	13.7
15-Nov	2	1	3	4	6	6	3	5	4	2	2	2	3	3	3	4	2	0	3	3	3	4	4	4	3.2	6.4
16-Nov	4	3	1	2	2	0	1	1	3	2	1	2	1	0	0	2	3	5	5	5	2	3	2	2	2.1	5.4
17-Nov	2	0	1	3	3	5	4	4	2	0	1	6	5	2	2	3	6	3	3	4	4	4	2	1	2.9	6.0
18-Nov	3	3	2	2	2	2	4	2	2	2	4	5	6	4	4	2	2	4	3	5	7	11	10	13	4.3	12.9
19-Nov	11	8	7	6	4	5	4	3	4	6	6	4	6	6	5	4	4	9	12	13	7	9	10	7	6.7	13.2
20-Nov	8	5	6	13	9	7	7	10	9	9	9	9	5	3	5	5	6	7	12	15	20	18	9	6	8.9	19.6
21-Nov	11	14	11	9	7	8	10	9	11	11	12	15	20	19	15	3	2	4	6	5	8	10	5	2	9.4	19.7
22-Nov	0	4	2	0	2	4	6	11	14	13	11	8	0	2	5	6	2	4	6	10	5	4	4	3	5.3	14.4
23-Nov	3	5	5	6	6	25	28	13	12	18	19	15	22	24	27	20	18	24	22	21	22	19	16	12	16.7	27.6
24-Nov	12	13	13	9	11	11	11	8	13	13	15	17	12	13	12	14	27	39	58	58	44	26	20	17	20.2	58.0
25-Nov	3	2	2	0	3	2	3	4	1	0	1	3	4	3	3	5	7	4	2	0	2	7	11	16	3.7	15.9
26-Nov	21	22	13	10	9	7	3	4	9	14	18	15	13	15	13	8	12	14	12	2	5	7	6	10	10.9	22.0
27-Nov	7	4	4	6	7	9	10	7	8	8	8	6	5	2	4	6	8	6	7	7	7	12	11	9	7.0	12.0
28-Nov	9	9	8	10	9	9	11	11	11	11	13	18	21	17	15	20	26	26	28	28	22	23	23	18	16.6	28.4
29-Nov	13	12	15	16	13	14	16	17	18	24	23	19	18	17	20	17	11	13	24	16	12	10	14	15	16.2	24.0
30-Nov	19	20	17	12	13	14	11	8	14	21	23	17	17	21	23	24	20	23	24	26	27	22	20	16	18.9	26.7
	8.5	8.0	7.9	7.4	6.9	7.5	7.6	8.2	9.5	10.2	10.5	10.2	9.1	8.2	8.7	8.6	8.9	9.8	12.0	11.5	11.3	10.9	9.6	9.5	Diurnal Average	
	21.0	22.0	18.8	19.0	16.6	25.3	27.6	17.8	23.0	24.0	24.3	20.2	22.2	24.0	30.0	23.6	27.0	39.0	58.0	58.0	43.9	30.1	22.9	20.9	Diurnal Maximum	

Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

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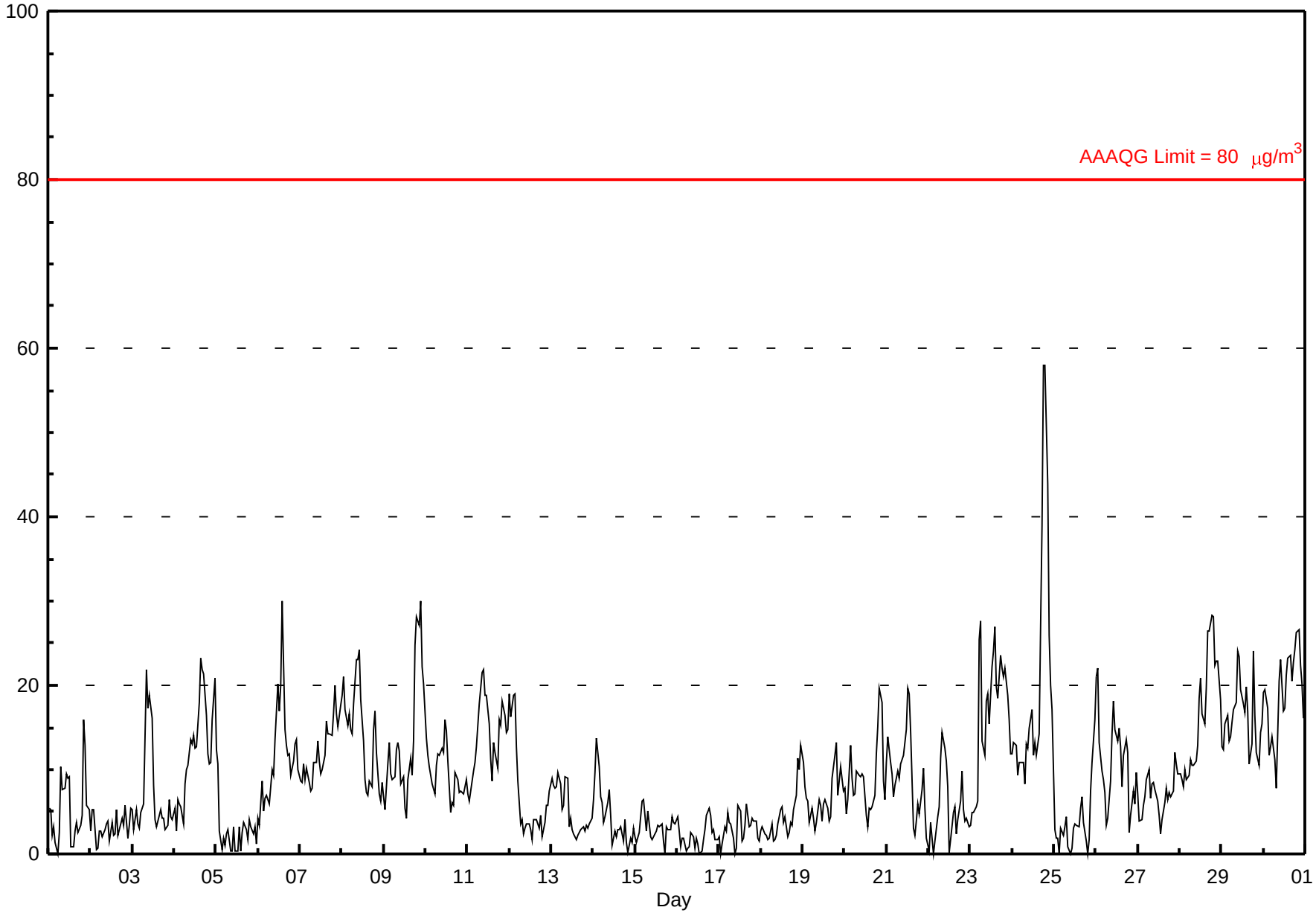
Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Henry Pirker - November 2010

Maximum Value: 61.8 $\mu g/m^3$ on Nov 24 19:00

Maximum Daily Average: 23.4 $\mu g/m^3$ on Nov 24

Minimum Value: 0 $\mu g/m^3$ on Nov 16 14:00

Minimum Daily Average: 2.8 $\mu g/m^3$ on Nov 16

Maximum Diurnal Average: 13.7 $\mu g/m^3$ at hour 19

Minimum Diurnal Average: 8.3 $\mu g/m^3$ at hour 5

Monthly Average: 10.88 $\mu g/m^3$

Percentiles: $P_1 = 0.9$ $P_{10} = 3.3$ $Q_1 = 4.8$ Median = 9.3 $Q_3 = 14.8$ $P_{90} = 21.8$ $P_{99} = 32.9$

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	8	8	3	4	3	1	7	12	10	9	11	10	11	5	2	4	5	4	5	13	18	15	10	6	7.6	18.0
2-Nov	5	8	8	1	1	4	4	2	4	5	5	3	5	4	4	6	5	4	5	6	7	4	6	6	4.6	8.4
3-Nov	6	5	6	5	4	5	7	20	23	21	20	20	12	5	5	6	6	5	5	5	5	8	5	5	8.9	22.8
4-Nov	7	5	8	7	7	6	9	11	13	14	15	15	13	16	21	25	24	24	18	16	12	13	20	23	14.2	24.9
5-Nov	16	12	7	3	3	4	4	4	4	3	4	2	4	4	2	4	4	4	3	7	5	4	4	3	4.9	16.4
6-Nov	5	6	10	8	8	8	7	11	11	10	16	23	22	29	33	23	14	13	13	10	12	14	14	13	13.8	33.5
7-Nov	9	11	12	10	10	10	8	8	12	13	15	12	12	12	13	17	17	15	15	18	21	19	16	19	13.5	20.8
8-Nov	20	22	21	17	17	16	15	22	24	24	26	25	14	10	9	8	9	12	18	18	14	10	7	9	16.1	25.6
9-Nov	9	7	13	14	12	9	12	14	15	14	10	11	6	7	10	13	12	18	30	31	30	32	26	21	15.7	31.8
10-Nov	18	13	12	10	9	8	12	13	13	14	14	17	17	13	8	6	8	10	10	8	8	8	8	9	11.0	17.5
11-Nov	8	7	10	11	12	14	16	20	23	23	22	20	18	14	10	14	14	12	17	17	20	19	15	18	15.6	22.9
12-Nov	20	17	22	22	15	10	6	5	4	5	6	5	4	3	5	5	5	4	6	4	7	7	6	10	8.4	21.9
13-Nov	10	9	9	10	10	11	7	7	13	13	5	5	3	3	2	3	3	4	4	3	5	5	6	6	6.5	13.3
14-Nov	7	15	15	11	9	7	7	7	7	8	7	3	3	3	4	3	4	3	5	3	1	2	2	4	5.8	15.2
15-Nov	4	2	3	7	8	7	5	6	5	3	2	4	4	5	5	4	2	1	4	4	5	5	4	4	4.3	8.0
16-Nov	5	4	2	3	2	1	1	2	3	3	1	3	2	0	1	3	3	5	6	5	4	4	2	3	2.8	5.6
17-Nov	3	0	4	4	4	6	5	5	4	0	3	7	6	4	3	6	7	4	4	5	5	4	3	2	4.0	7.1
18-Nov	3	3	3	3	3	3	4	4	2	2	5	6	6	4	5	4	4	4	5	6	9	12	11	13	5.2	13.4
19-Nov	13	9	8	8	4	6	6	3	5	7	7	5	8	8	6	6	6	11	12	14	11	11	11	10	8.2	14.5
20-Nov	9	7	10	15	12	7	8	11	11	10	10	9	8	6	6	6	6	10	13	18	21	20	13	8	10.6	20.6
21-Nov	14	15	12	11	8	9	11	10	12	12	13	17	21	21	18	10	4	5	6	6	11	11	8	4	11.0	21.4
22-Nov	2	5	5	0	3	5	7	15	15	14	11	11	3	4	6	7	4	5	9	10	8	5	5	4	6.8	14.6
23-Nov	4	6	6	7	11	33	33	21	16	19	20	20	29	29	29	25	21	25	25	23	24	20	18	13	19.8	33.0
24-Nov	12	14	14	10	12	12	12	11	14	13	17	19	14	13	13	23	31	49	62	61	54	33	24	25	23.4	61.8
25-Nov	5	3	2	2	4	3	4	5	4	0	2	4	4	4	5	6	7	5	4	0	5	9	13	18	4.9	18.4
26-Nov	24	24	18	10	10	8	6	7	10	18	19	16	15	17	17	9	13	16	16	6	8	9	8	11	13.1	24.0
27-Nov	10	5	5	7	7	11	11	8	9	9	8	7	6	3	6	6	8	8	8	8	11	13	12	10	8.3	12.6
28-Nov	10	10	8	11	10	10	12	11	11	12	15	22	22	18	16	24	27	27	33	32	23	25	25	21	18.2	33.0
29-Nov	15	15	16	17	15	14	17	18	21	26	26	20	20	19	21	20	13	19	26	23	13	11	17	17	18.3	26.2
30-Nov	20	20	18	16	14	15	15	9	18	24	24	20	19	23	25	25	22	23	27	27	28	25	22	19	20.8	28.0
	10.1	9.6	9.7	8.8	8.3	8.8	9.3	10.0	11.1	11.7	12.0	12.0	11.0	10.3	10.2	10.7	10.3	11.7	13.7	13.5	13.4	12.5	11.3	11.2	Diurnal Average	
	24.0	24.0	21.9	21.9	17.2	33.0	33.0	21.8	23.7	26.2	26.2	25.2	29.2	28.7	33.5	24.9	30.8	49.0	61.8	61.2	53.5	33.1	26.3	24.8	Diurnal Maximum	

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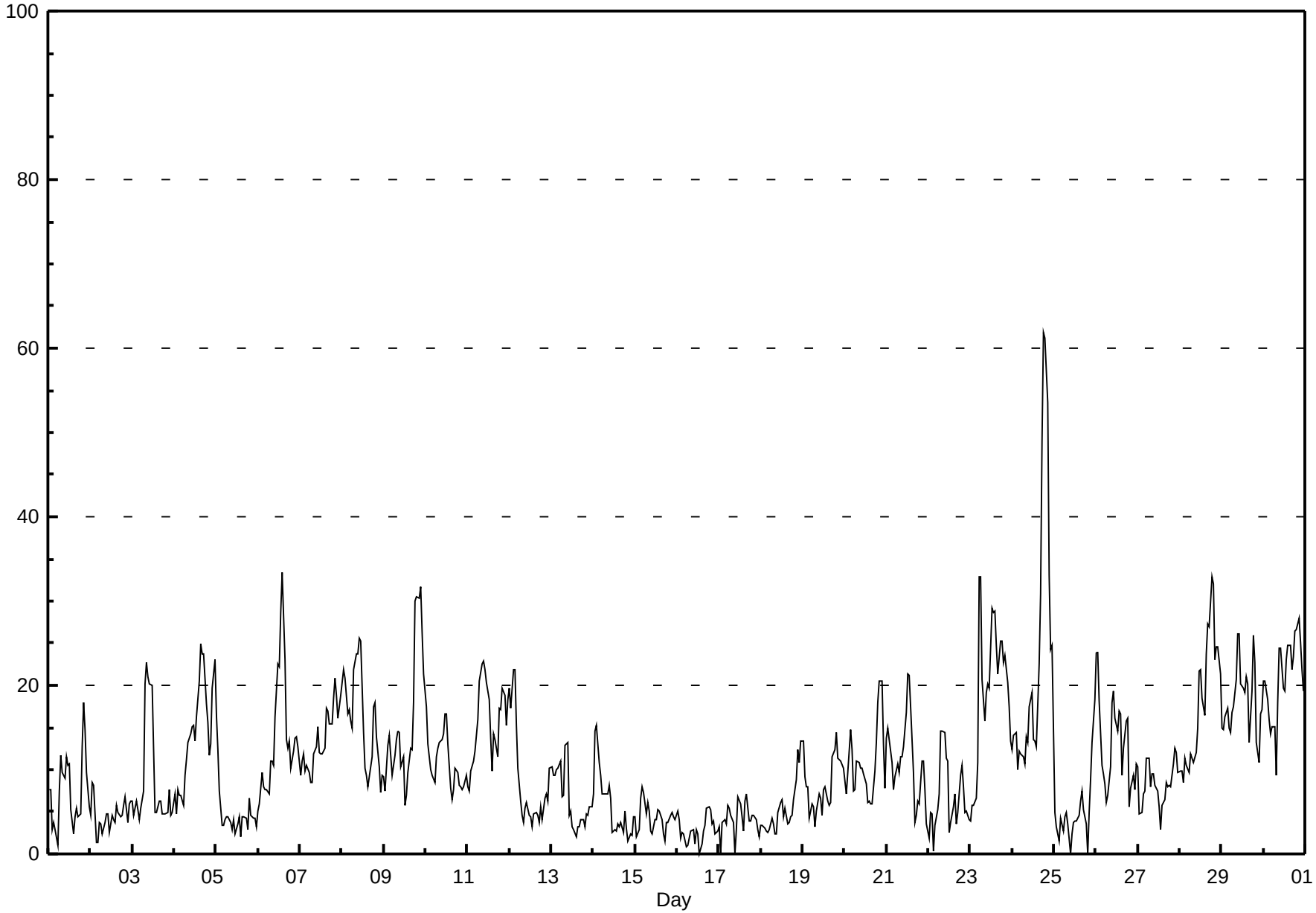
Peace Air Shed Zone Association

Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

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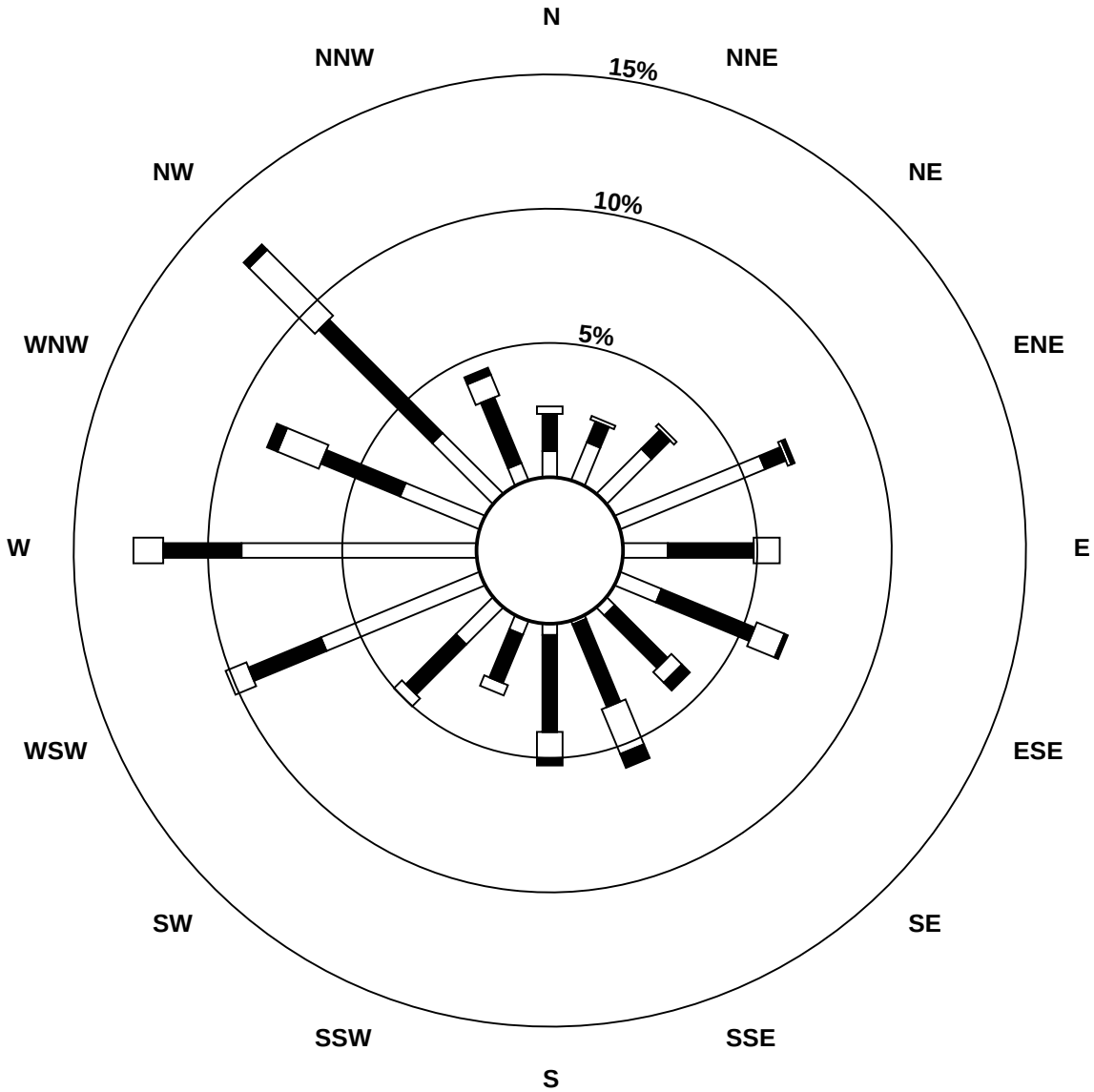
Pollutant Rose

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Henry Pirker - November 2010



Pollutant Classes ($\mu g/m^3$)

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.0 ^{o}C on Nov 1 14:00 Maximum Daily Average: 6.5 ^{o}C on Nov 2

Minimum Value: -30 ^{o}C on Nov 23 06:00 Minimum Daily Average: -25.6 ^{o}C on Nov 23
Maximum Diurnal Average: -2.0 ^{o}C at hour 15 Minimum Diurnal Average: -8.3 ^{o}C at hour 5
Monthly Average: -5.97 ^{o}C Percentiles: P_1 = -28.1 P_{10} = -20.6 Q_1 = -12.5 Median = -4.1 Q_3 = 1.5 P_{90} = 5.0 P_{99} = 11.2

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

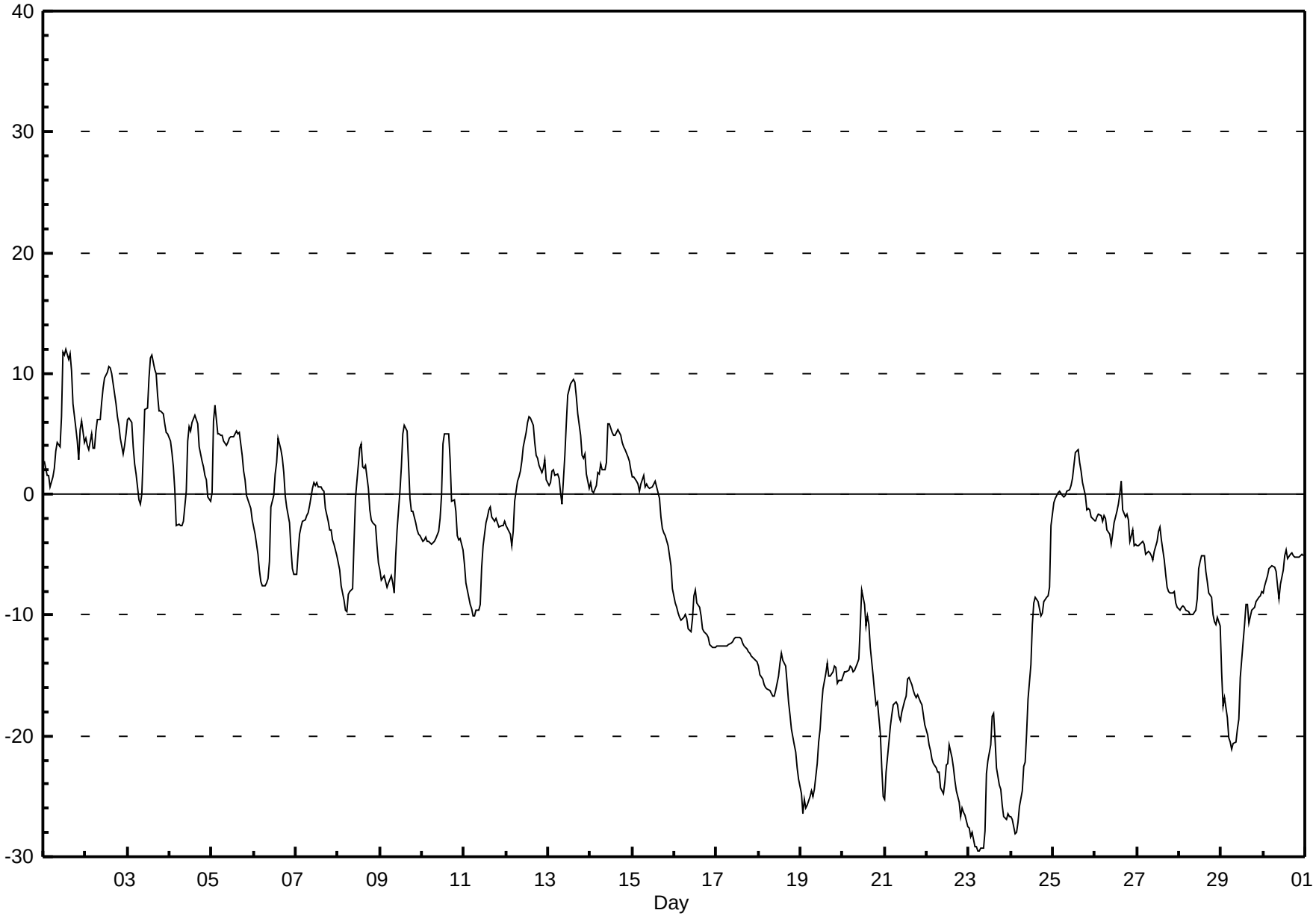
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	3	2	2	2	1	1	2	4	4	4	6	12	12	12	11	12	10	7	6	4	3	5	6	4	5.6	12.0
2-Nov	5	4	4	5	4	4	5	6	6	8	9	10	10	11	10	10	9	7	6	6	5	3	4	5	6.5	10.6
3-Nov	6	6	6	4	2	2	0	-1	0	3	7	7	10	11	12	10	10	8	7	7	7	6	5	5	5.8	11.5
4-Nov	4	4	2	0	-3	-2	-3	-3	-2	0	4	6	5	6	6	6	6	4	3	2	2	1	0	-1	2.0	6.5
5-Nov	0	6	7	5	5	5	5	4	4	4	5	5	5	5	5	5	5	3	2	1	0	-1	-1	-2	3.5	7.4
6-Nov	-3	-3	-5	-6	-7	-8	-8	-7	-7	-6	-1	0	2	3	5	4	3	2	0	-1	-2	-4	-6	-7	-2.7	4.6
7-Nov	-7	-5	-3	-3	-2	-2	-2	-2	-1	1	1	1	1	1	1	0	0	-1	-2	-3	-3	-4	-4	-5	-1.8	1.0
8-Nov	-6	-6	-8	-9	-10	-10	-8	-8	-8	-4	0	1	4	4	2	2	2	1	-1	-2	-2	-3	-4	-6	-3.2	4.2
9-Nov	-6	-7	-7	-7	-8	-7	-7	-7	-8	-5	-3	0	2	5	6	5	3	0	-1	-1	-2	-3	-3	-3	-2.8	5.8
10-Nov	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-2	0	4	5	5	5	3	-1	0	-1	-3	-4	-4	-5	-1.5	5.0
11-Nov	-6	-7	-8	-9	-10	-10	-10	-10	-10	-9	-6	-4	-2	-2	-1	-1	-2	-2	-2	-2	-3	-3	-3	-2	-5.2	-1.0
12-Nov	-3	-3	-3	-4	-3	-1	1	1	2	3	4	5	6	6	6	6	4	3	3	2	2	2	3	1	1.9	6.4
13-Nov	1	1	2	2	2	2	1	0	-1	3	6	8	9	9	9	9	8	7	5	3	3	3	2	1	4.0	9.5
14-Nov	1	0	0	1	2	2	3	2	2	3	6	6	5	5	5	5	5	5	4	4	4	3	3	2	3.2	5.8
15-Nov	1	1	1	1	0	1	2	1	1	1	1	1	1	1	1	0	-2	-3	-3	-3	-4	-5	-6	-8	-0.9	1.5
16-Nov	-9	-9	-10	-10	-10	-10	-10	-10	-11	-11	-10	-8	-8	-9	-9	-10	-11	-11	-12	-12	-12	-13	-13	-13	-10.6	-7.9
17-Nov	-13	-13	-13	-13	-13	-13	-13	-12	-12	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-14	-14	-14	-12.6	-11.8
18-Nov	-14	-15	-15	-16	-16	-16	-16	-17	-17	-17	-16	-15	-14	-13	-14	-14	-16	-17	-18	-19	-21	-21	-23	-24	-16.8	-13.1
19-Nov	-25	-26	-25	-26	-26	-25	-25	-25	-24	-22	-20	-19	-18	-16	-15	-14	-15	-15	-15	-14	-14	-16	-15	-15	-19.6	-14.0
20-Nov	-15	-15	-15	-15	-14	-14	-15	-15	-14	-14	-11	-8	-9	-11	-10	-11	-13	-15	-16	-17	-17	-20	-23	-25	-14.6	-7.9
21-Nov	-25	-23	-21	-19	-18	-17	-17	-17	-18	-19	-18	-17	-17	-15	-15	-16	-16	-17	-17	-17	-17	-17	-18	-19	-18.0	-15.2
22-Nov	-20	-21	-21	-22	-22	-23	-23	-23	-24	-25	-24	-22	-22	-21	-22	-23	-24	-25	-25	-27	-26	-26	-27	-28	-23.5	-19.9
23-Nov	-28	-28	-28	-29	-29	-30	-30	-29	-29	-28	-23	-22	-21	-18	-18	-20	-23	-24	-24	-26	-27	-27	-26	-27	-25.6	-18.2
24-Nov	-27	-27	-28	-28	-27	-26	-25	-23	-22	-20	-17	-14	-11	-9	-9	-9	-10	-10	-10	-9	-9	-8	-8	-3	-16.1	-2.6
25-Nov	-1	0	0	0	0	0	0	0	0	0	1	1	2	3	4	3	2	1	0	-1	-1	-1	-2	-2	0.4	3.7
26-Nov	-2	-2	-2	-2	-2	-2	-2	-3	-3	-4	-3	-2	-1	-1	0	1	-1	-2	-2	-2	-4	-3	-4	-4	-2.2	1.1
27-Nov	-4	-4	-4	-4	-4	-5	-5	-5	-5	-5	-5	-4	-3	-3	-4	-5	-7	-8	-8	-8	-8	-8	-9	-9	-5.6	-2.7
28-Nov	-10	-9	-9	-9	-10	-10	-10	-10	-10	-10	-9	-6	-6	-5	-5	-6	-7	-8	-8	-10	-11	-11	-10	-11	-8.7	-5.1
29-Nov	-15	-18	-17	-18	-20	-21	-21	-21	-21	-19	-19	-15	-12	-11	-9	-9	-11	-10	-9	-9	-9	-9	-8	-8	-14.1	-8.1
30-Nov	-8	-8	-7	-6	-6	-6	-6	-6	-8	-9	-7	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-6.0	-4.6
	-7.6	-7.6	-7.6	-8.0	-8.3	-8.2	-8.0	-8.0	-8.0	-7.1	-5.3	-3.8	-2.8	-2.1	-2.0	-2.4	-3.4	-4.6	-5.3	-5.8	-6.4	-6.7	-7.1	-7.5	Diurnal Average	
	6.2	6.3	7.4	5.0	5.0	4.8	5.3	6.2	6.1	7.6	8.8	11.8	11.5	12.0	11.5	11.6	10.2	8.1	6.9	6.8	6.7	5.9	6.1	5.0	Diurnal Maximum	

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 88.6 % on Nov 15 05:00 Maximum Daily Average: 81.0 % on Nov 7

Minimum Value: 36 % on Nov 5 17:00 Minimum Daily Average: 53.0 % on Nov 2
Maximum Diurnal Average: 72.9 % at hour 5 Minimum Diurnal Average: 59.9 % at hour 15
Monthly Average: 68.29 % Percentiles: P_1 = 39.9 P_{10} = 51.9 Q_1 = 61.7 Median = 70.3 Q_3 = 76.2 P_{90} = 80.6 P_{99} = 87.1

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

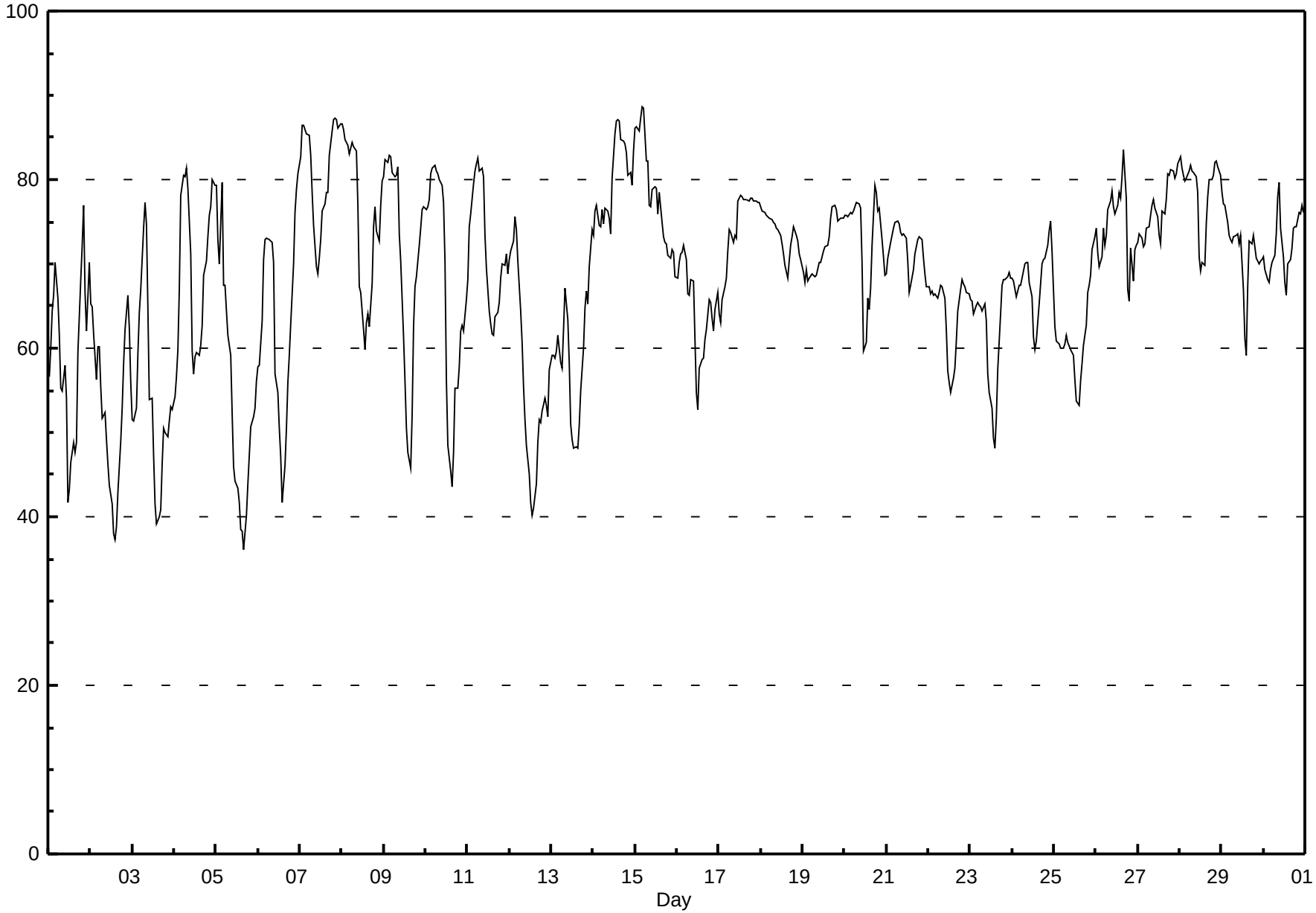
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	57	60	64	66	70	66	62	55	55	58	54	42	43	46	49	48	49	59	68	72	77	67	62	70	59.1	76.9
2-Nov	65	65	62	56	60	60	55	52	52	49	46	44	41	38	37	39	43	49	53	58	62	66	62	56	53.0	66.2
3-Nov	51	51	53	59	64	67	74	77	75	65	54	54	47	41	39	40	41	46	50	50	50	51	53	53	54.5	77.3
4-Nov	54	57	60	67	78	81	80	81	79	71	60	57	59	60	59	60	63	69	70	73	76	77	80	79	68.7	81.3
5-Nov	79	73	70	80	68	67	64	62	59	52	46	44	43	42	38	38	36	40	44	47	51	52	53	56	54.4	79.7
6-Nov	58	58	63	70	73	73	73	73	73	70	57	55	50	47	42	46	50	56	59	63	70	76	79	81	63.1	80.6
7-Nov	83	86	86	86	85	85	83	78	75	70	69	71	73	76	77	78	78	83	86	87	87	87	86	87	81.0	87.2
8-Nov	87	86	85	84	83	84	84	84	83	77	67	67	62	60	63	64	63	68	74	77	74	73	77	80	75.2	86.6
9-Nov	80	82	82	83	83	81	80	80	82	74	70	61	56	51	48	46	52	63	67	68	72	74	76	77	70.4	82.8
10-Nov	77	77	78	81	81	82	81	81	80	79	77	70	56	48	45	44	48	55	55	58	62	63	62	66	66.9	81.7
11-Nov	68	74	76	80	81	82	83	81	81	80	73	70	64	63	62	62	64	64	65	68	70	70	71	69	71.7	82.6
12-Nov	71	72	73	76	74	70	64	61	55	51	48	45	42	40	41	44	49	51	51	53	54	53	52	57	56.2	75.6
13-Nov	59	59	59	60	62	58	58	62	67	63	58	51	49	48	48	48	51	55	60	65	67	65	70	74	59.0	74.1
14-Nov	73	76	77	75	74	76	75	77	76	75	74	80	85	87	87	87	85	85	84	83	80	81	79	83	79.8	87.1
15-Nov	86	86	86	87	89	89	82	82	77	77	79	79	79	76	79	75	73	73	72	71	71	72	71	68	78.2	88.6
16-Nov	68	70	71	71	72	71	66	66	68	68	61	55	53	58	59	59	61	62	66	65	64	62	65	67	64.5	72.3
17-Nov	64	63	66	67	68	72	74	74	73	73	73	77	78	78	78	78	78	78	78	78	78	77	77	77	74.0	78.2
18-Nov	77	76	76	76	76	75	75	75	75	74	74	73	72	71	70	68	70	72	73	74	73	73	71	71	73.4	76.7
19-Nov	69	68	69	68	68	69	69	68	69	70	70	71	71	72	72	73	75	77	77	76	75	75	75	75	71.8	76.9
20-Nov	76	76	76	76	76	76	77	77	77	77	70	60	61	66	65	67	72	79	78	76	77	73	71	69	72.8	79.3
21-Nov	69	71	73	73	74	75	75	75	74	73	74	73	70	67	67	69	71	72	73	73	73	71	69	67	71.7	75.1
22-Nov	67	66	67	66	66	66	67	68	67	66	62	57	56	55	57	58	61	64	67	68	68	67	67	66	64.1	68.1
23-Nov	66	66	64	65	65	65	65	64	65	63	57	55	53	49	48	52	57	64	67	68	68	69	69	68	62.2	69.0
24-Nov	68	68	66	67	67	67	69	70	70	70	68	66	61	60	61	65	68	70	71	71	72	74	75	72	68.2	75.0
25-Nov	63	61	61	60	60	60	61	61	61	60	59	59	56	54	53	56	58	60	63	67	67	69	72	73	61.4	73.3
26-Nov	74	71	70	71	74	72	73	76	77	79	77	76	77	78	78	80	84	78	67	66	72	68	72	72	74.3	83.6
27-Nov	73	74	73	72	72	74	74	76	77	78	77	76	73	72	76	76	78	81	80	81	81	80	81	82	76.5	81.9
28-Nov	83	81	81	80	80	81	82	81	81	80	78	71	69	70	70	75	78	80	80	81	82	82	82	80	78.7	82.8
29-Nov	78	77	77	75	73	73	72	73	73	74	72	73	67	61	59	67	73	72	73	72	71	70	70	70	71.6	78.4
30-Nov	71	69	68	68	69	70	71	74	78	80	74	71	68	66	70	71	72	74	74	74	76	76	77	76	72.4	79.7
	70.4	70.7	71.0	72.2	72.9	72.9	72.3	72.1	71.8	69.9	66.0	63.4	61.3	60.0	59.9	61.1	63.3	66.6	68.3	69.5	70.6	70.4	70.9	71.4	Diurnal Average	
	86.6	86.4	86.4	87.2	88.6	88.5	84.4	83.9	83.5	80.4	78.8	80.2	85.3	86.9	87.1	86.9	84.8	84.6	85.8	87.1	87.2	87.1	86.2	86.5	Diurnal Maximum	

PASZA
Peace Air Shed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 283.0 W/m^2 on Nov 2 13:00 Maximum Daily Average: 63.2 W/m^2 on Nov 2

Minimum Value: 0 W/m^2 on Nov 1 01:00 Minimum Daily Average: 8.4 W/m^2 on Nov 14
Maximum Diurnal Average: 144.1 W/m^2 at hour 13 Minimum Diurnal Average: 0.0 W/m^2 at hour 1
Monthly Average: 30.40 W/m^2 Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 35.0 P_{90} = 114.2 P_{99} = 252.4

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	0	0	0	0	0	0	0	0	2	23	156	252	228	242	161	130	40	0	0	0	0	0	0	0	51.5	252.5
2-Nov	0	0	0	0	0	0	0	0	21	114	197	258	283	267	217	121	37	0	0	0	0	0	0	0	63.2	283.0
3-Nov	0	0	0	0	0	0	0	0	11	99	173	169	252	263	185	48	35	0	0	0	0	0	0	0	51.5	262.8
4-Nov	0	0	0	0	0	0	0	0	11	89	191	136	87	112	78	41	31	0	0	0	0	0	0	0	32.4	191.3
5-Nov	0	0	0	0	0	0	0	0	5	30	46	85	89	87	94	80	34	0	0	0	0	0	0	0	22.9	94.2
6-Nov	0	0	0	0	0	0	0	0	12	52	153	167	165	213	192	66	19	0	0	0	0	0	0	0	43.3	212.7
7-Nov	0	0	0	0	0	0	0	0	2	72	95	93	92	83	64	32	31	0	0	0	0	0	0	0	23.4	94.7
8-Nov	0	0	0	0	0	0	0	0	7	54	130	210	254	140	60	50	33	0	0	0	0	0	0	0	39.1	253.8
9-Nov	0	0	0	0	0	0	0	0	4	77	164	215	241	231	185	102	19	0	0	0	0	0	0	0	51.6	240.6
10-Nov	0	0	0	0	0	0	0	0	4	27	50	137	247	225	181	95	23	0	0	0	0	0	0	0	41.2	247.0
11-Nov	0	0	0	0	0	0	0	0	8	31	106	176	155	112	89	52	10	0	0	0	0	0	0	0	30.8	176.1
12-Nov	0	0	0	0	0	0	0	0	5	68	150	205	229	219	174	75	11	0	0	0	0	0	0	0	47.4	229.3
13-Nov	0	0	0	0	0	0	0	0	11	16	97	129	63	98	155	88	16	0	0	0	0	0	0	0	28.0	154.7
14-Nov	0	0	0	0	0	0	0	0	0	16	40	33	42	24	24	15	7	0	0	0	0	0	0	0	8.4	42.0
15-Nov	0	0	0	0	0	0	0	0	1	14	38	68	70	70	41	25	1	0	0	0	0	0	0	0	13.7	69.9
16-Nov	0	0	0	0	0	0	0	0	2	46	144	200	210	120	142	66	10	0	0	0	0	0	0	0	39.2	210.2
17-Nov	0	0	0	0	0	0	0	0	0	15	33	43	56	77	56	26	4	0	0	0	0	0	0	0	13.0	77.2
18-Nov	0	0	0	0	0	0	0	0	1	32	69	136	172	136	162	84	14	0	0	0	0	0	0	0	33.6	171.7
19-Nov	0	0	0	0	0	0	0	0	6	35	85	82	108	116	85	43	7	0	0	0	0	0	0	0	23.7	115.8
20-Nov	0	0	0	0	0	0	0	0	0	14	62	108	119	49	76	42	13	0	0	0	0	0	0	0	20.2	118.9
21-Nov	0	0	0	0	0	0	0	0	0	7	28	44	59	73	46	25	3	0	0	0	0	0	0	0	11.8	73.2
22-Nov	0	0	0	0	0	0	0	0	0	37	108	182	207	201	157	78	10	0	0	0	0	0	0	0	40.8	207.0
23-Nov	0	0	0	0	0	0	0	0	1	39	126	187	206	194	152	73	9	0	0	0	0	0	0	0	41.1	206.1
24-Nov	0	0	0	0	0	0	0	0	4	49	85	98	159	102	60	29	4	0	0	0	0	0	0	0	24.6	158.6
25-Nov	0	0	0	0	0	0	0	0	0	20	59	81	108	166	137	36	7	0	0	0	0	0	0	0	25.6	166.0
26-Nov	0	0	0	0	0	0	0	0	0	9	31	33	28	41	98	58	5	0	0	0	0	0	0	0	12.6	98.2
27-Nov	0	0	0	0	0	0	0	0	0	12	35	67	104	122	77	36	6	0	0	0	0	0	0	0	19.1	122.2
28-Nov	0	0	0	0	0	0	0	0	0	8	35	94	60	80	41	20	3	0	0	0	0	0	0	0	14.2	93.7
29-Nov	0	0	0	0	0	0	0	0	0	39	62	108	142	135	112	53	2	0	0	0	0	0	0	0	27.2	141.8
30-Nov	0	0	0	0	0	0	0	0	0	11	51	84	88	82	53	33	3	0	0	0	0	0	0	0	16.9	88.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	38.6	93.3	129.3	144.1	136.1	111.9	57.4	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	113.7	197.2	257.9	283.0	267.2	217.5	130.0	40.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Maximum	

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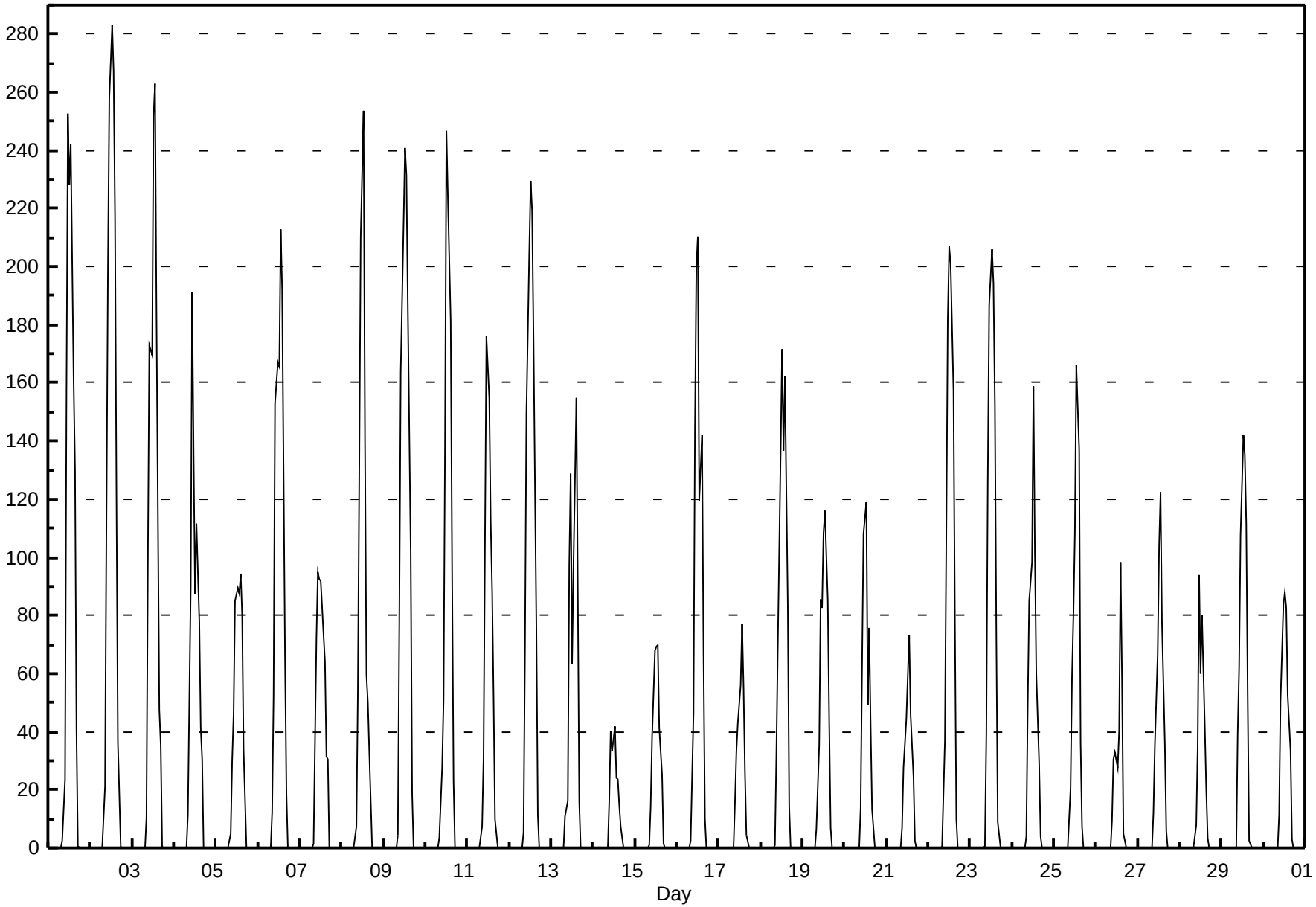
Peace Air Shed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	10	10	9	8	6	9	10	11	7	4	2	2	7	21	21	19	18	17	7	4	5	11	8	8	5.5	21.5
Dir	108	119	116	115	146	133	134	139	133	125	139	235	293	228	220	220	247	272	238	68	163	218	222	190	193.1	228.0
2 Spd	10	8	6	8	5	6	16	19	17	14	28	35	39	37	37	36	31	20	17	15	14	9	12	21	18.3	38.9
Dir	216	224	279	263	15	305	261	265	259	272	259	258	261	268	275	272	268	271	262	267	247	313	251	258	264.9	261.2
3 Spd	20	23	20	7	4	4	2	1	3	4	5	7	10	12	13	9	10	8	8	10	13	12	10	11	2.8	23.3
Dir	276	287	284	307	254	308	86	111	163	158	124	97	119	114	117	105	102	99	94	97	103	103	99	100	110.5	286.9
4 Spd	11	10	3	1	4	1	1	1	2	3	1	0	1	2	1	1	2	4	8	10	1	3	2	2	0.7	11.0
Dir	99	107	108	343	319	344	248	164	156	126	93	39	273	287	270	193	280	338	326	324	280	326	262	326	1.2	98.9
5 Spd	3	20	27	21	22	21	21	16	15	18	25	26	25	25	25	23	21	15	14	14	10	9	10	10	17.4	26.6
Dir	317	300	302	287	254	258	258	254	254	256	274	277	271	256	259	257	259	260	256	260	245	237	246	241	265.0	302.3
6 Spd	7	2	3	0	2	4	5	4	3	2	1	3	0	6	6	5	5	5	6	5	4	2	3	2	2.2	7.1
Dir	242	97	83	199	159	154	150	133	116	9	82	158	161	153	164	163	122	93	93	82	76	19	354	340	125.7	241.9
7 Spd	2	5	6	6	8	7	8	6	7	10	8	4	5	9	10	8	6	4	4	4	4	5	1	2	2.8	10.2
Dir	27	93	82	88	106	87	87	99	83	108	122	171	224	237	249	237	217	208	166	149	165	150	152	360	139.7	107.7
8 Spd	2	2	2	1	3	1	3	2	2	1	2	4	3	7	5	5	5	4	3	5	5	4	2	1	1.8	6.5
Dir	119	311	299	245	333	11	113	124	131	228	183	159	176	191	180	169	171	174	195	231	248	266	203	4	192.4	191.3
9 Spd	4	4	3	3	2	1	1	2	5	3	7	5	6	3	2	2	2	4	1	1	3	3	3	4	1.1	6.5
Dir	340	112	124	319	291	2	275	325	318	7	180	247	265	279	227	285	93	51	77	122	315	334	336	313	304.2	179.8
10 Spd	3	2	4	1	3	3	1	4	1	2	1	2	4	12	16	12	7	7	11	10	12	11	12	7	5.7	15.7
Dir	307	351	325	231	312	324	344	326	281	307	198	300	277	260	268	273	302	292	276	282	296	309	311	319	291.3	267.9
11 Spd	5	3	3	3	2	3	2	3	1	1	4	6	7	6	8	5	6	2	1	5	3	2	5	7	1.7	7.9
Dir	335	246	287	171	271	113	125	122	92	167	147	135	131	110	101	95	95	53	37	316	182	321	357	155	114.2	100.8
12 Spd	1	6	2	4	9	13	15	20	27	26	28	28	28	31	30	23	16	11	12	8	7	1	2	3	14.0	31.0
Dir	286	170	198	319	239	255	264	261	260	259	261	263	265	263	273	271	264	259	251	243	238	189	236	192	259.7	263.1
13 Spd	4	4	6	1	5	6	3	1	3	11	19	30	34	25	26	34	25	19	15	9	14	13	4	3	11.7	33.9
Dir	208	142	220	300	171	154	122	179	239	255	257	258	261	269	266	277	272	260	259	252	256	258	310	195	258.6	277.3
14 Spd	1	3	5	6	4	5	3	4	4	3	15	15	10	6	6	9	17	17	17	14	13	11	9	8	5.9	17.3
Dir	149	126	123	160	156	182	167	171	133	252	283	312	325	311	265	289	293	293	293	300	303	306	313	280	289.9	292.7
15 Spd	7	7	4	3	2	6	9	19	14	10	16	13	12	11	8	9	14	14	13	11	12	13	11	13	4.8	18.9
Dir	232	251	228	202	202	268	316	320	340	319	312	310	306	317	331	54	70	72	76	68	66	69	57	48	1.5	320.5
16 Spd	12	7	8	7	6	5	8	10	8	8	11	5	4	5	7	7	7	8	7	8	9	9	10	10	6.6	12.1
Dir	42	55	61	74	76	34	358	7	349	333	352	357	4	51	68	54	51	53	57	61	61	73	73	76	42.5	41.9
17 Spd	10	9	10	10	10	10	10	12	13	13	16	16	17	15	16	16	16	17	16	16	16	16	15	14	13.6	17.4
Dir	70	73	79	67	75	84	77	74	70	68	74	77	96	88	74	70	73	78	75	70	72	72	72	67	75.0	95.6
18 Spd	12	12	12	13	11	10	11	11	9	8	8	8	7	2	7	6	4	6	4	3	1	1	2	4	4.5	12.7
Dir	57	58	59	54	54	53	54	57	58	54	45	43	38	5	288	287	263	232	237	189	305	234	205	342	45.1	54.1
19 Spd	4	3	1	2	4	3	6	7	7	7	6	9	10	10	8	5	4	5	1	2	5	5	3	3	3.3	10.3
Dir	313	270	198	267	304	274	235	247	253	268	233	239	246	252	242	256	308	317	97	19	65	121	105	178	254.1	252.1
20 Spd	3	4	3	4	6	6	5	4	3	3	2	4	5	4	2	4	3	3	3	2	3	2	3	4	1.3	6.3
Dir	303	299	183	240	237	229	191	217	261	317	297	305	285	311	25	56	68	104	144	105	97	310	320	311	272.4	228.8
21 Spd	4	4	5	4	3	3	4	4	5	6	5	6	7	7	13	16	13	11	9	9	6	10	13	15	5.0	15.6
Dir	310	329	329	313	316	314	296	264	233	243	245	249	243	249	298	299	302	314	332	23	40	33	22	15	316.7	299.2
22 Spd	16	17	15	15	14	14	10	11	9	7	7	10	11	9	13	11	9	6	4	5	7	7	7	5	5.8	17.3
Dir	17	15	14	22	22	24	26	9	349	341	313	300	297	269	255	277	269	242	308	286	240	255	228	227	330.1	14.6

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Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	6	4	6	6	6	6	6	4	3	4	2	5	4	3	5	6	5	4	3	4	5	4	4	4	2.3	6.4
Dir	227	229	199	177	178	164	172	169	187	299	210	195	251	277	295	290	305	310	317	316	316	314	318	327	247.9	177.7
24 Spd	2	1	4	0	1	1	4	1	2	2	4	4	5	4	5	5	6	6	5	4	4	5	3	15	2.4	14.9
Dir	17	197	307	320	289	238	169	312	311	173	160	185	185	182	186	163	163	171	165	140	135	137	139	265	186.3	264.6
25 Spd	27	34	36	41	36	30	21	22	29	19	12	16	23	23	24	24	20	14	10	6	2	4	6	1	19.4	41.0
Dir	262	261	259	258	261	262	268	282	260	263	285	276	262	261	267	271	262	258	273	298	236	185	163	96	263.4	257.8
26 Spd	2	6	5	5	3	5	3	3	2	5	5	5	2	3	8	4	7	5	10	7	2	7	4	0	0.8	10.4
Dir	79	116	115	129	59	91	72	98	39	323	325	316	229	328	316	178	179	230	280	250	307	260	221	296	257.7	280.1
27 Spd	3	2	4	5	5	4	2	3	4	6	7	7	9	10	11	10	6	4	3	2	2	3	6	5	2.5	10.8
Dir	323	299	243	210	203	152	228	222	333	292	310	302	299	310	336	335	345	336	338	323	45	120	122	138	305.8	335.8
28 Spd	4	5	5	4	4	3	3	3	3	3	3	2	2	2	2	3	2	2	2	3	2	4	3	5	1.0	5.2
Dir	158	152	138	137	142	167	128	140	164	162	164	182	243	180	295	354	59	156	302	337	291	302	316	325	166.1	138.2
29 Spd	6	5	5	4	3	3	3	3	4	2	3	3	3	4	1	7	9	11	11	12	12	11	10	8	2.4	12.0
Dir	318	319	331	321	329	312	327	302	319	329	295	332	314	304	19	94	99	101	103	102	108	106	110	109	73.4	108.2
30 Spd	7	7	7	7	7	6	3	2	3	3	4	3	3	3	4	2	3	1	2	3	4	2	3	2	0.2	7.3
Dir	111	103	99	103	98	102	112	259	291	248	304	303	266	296	313	271	181	270	233	302	317	309	286	306	72.5	99.2
Spd	1.2	1.0	1.5	1.2	1.3	1.1	1.1	2.0	2.7	3.2	4.5	5.6	6.7	6.8	6.8	5.7	3.9	2.7	2.3	1.4	0.3	0.5	0.6	0.8	Diurnal Average	
Dir	315.8	294.0	296.5	277.6	254.8	250.6	250.3	279.7	276.2	276.8	273.3	271.1	267.2	260.8	267.4	272.2	268.0	275.1	277.8	314.9	286.2	331.4	359.4	315.4		
Spd	26.9	33.8	36.4	41.0	35.7	29.5	21.2	22.2	29.2	26.2	28.4	35.0	38.9	36.7	36.5	36.0	31.2	20.2	17.3	15.7	16.2	16.1	15.1	21.3	Diurnal Maximum	
Dir	261.8	260.8	259.2	257.8	261.3	262.2	268.3	282.4	260.0	259.2	260.6	257.6	261.2	268.1	275.5	272.3	268.2	271.1	292.7	70.5	72.4	72.2	71.7	258.1		

Maximum Speed Value: 41 km/h on Nov 25 04:00
Maximum Daily Speed Average: 19.4 km/h on Nov 25
Maximum Diurnal Speed Average: 6.8 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 4 12:00
Minimum Daily Speed Average: 0.2 km/h on Nov 8
Minimum Diurnal Speed Average: 0.3 km/h at hour 21

Monthly Average Velocity: 2.61 km/h 273.72 deg

Speed Percentiles: $P_1 = 0.5$ $P_{10} = 2.0$ $Q_1 = 3.2$ Median = 5.5 $Q_3 = 10.4$ $P_{90} = 16.7$ $P_{99} = 35.5$

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	24	9	9	0	0	0	42
NorthEast	14	23	10	0	0	0	47
East	25	49	28	0	0	0	102
SouthEast	42	22	3	0	0	0	67
South	56	23	0	0	0	0	79
SouthWest	32	37	4	2	0	0	75
West	38	31	32	35	19	2	157
NorthWest	95	36	18	2	0	0	151
Total	326	230	104	39	19	2	720

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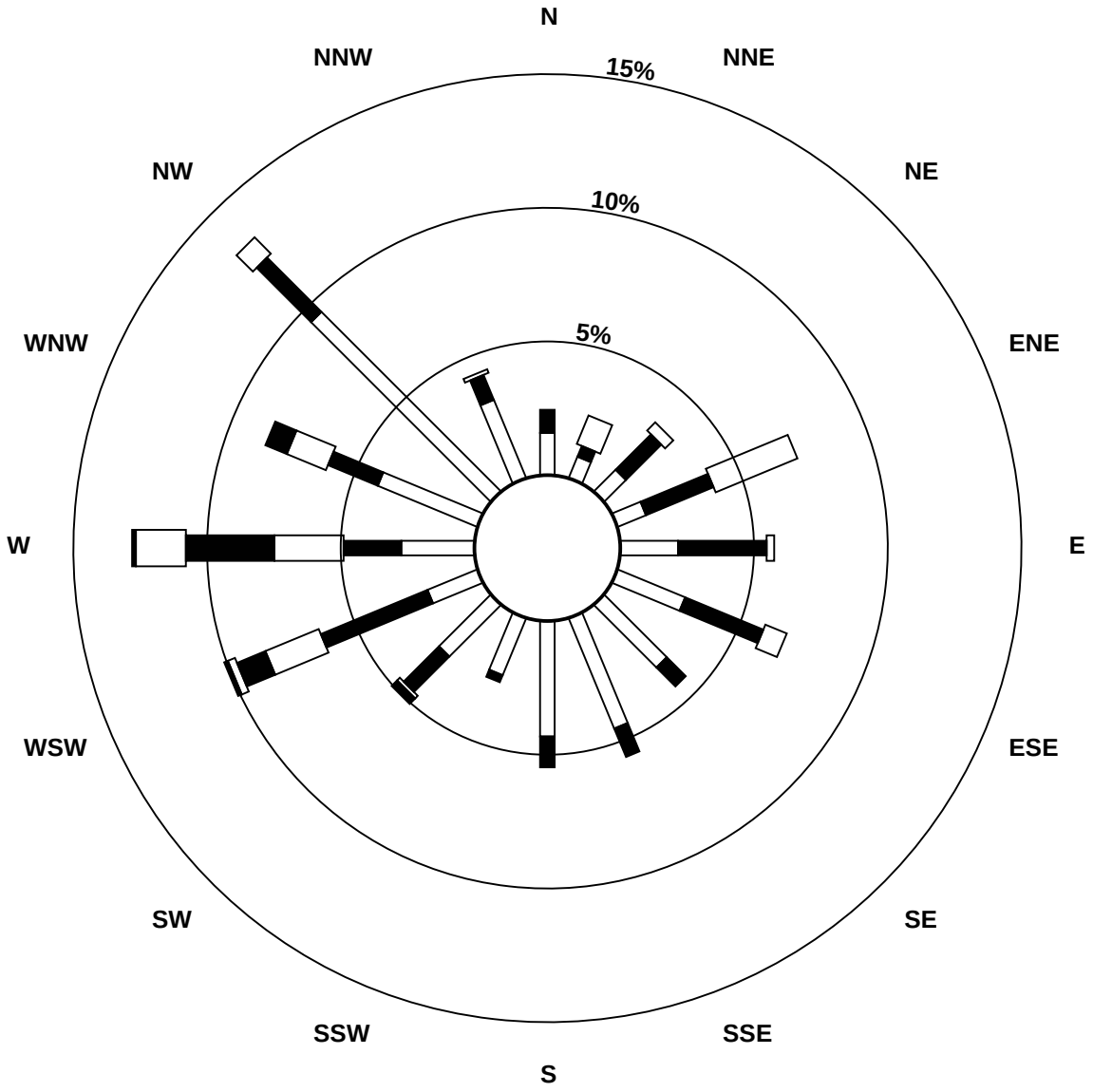
Peace Air Shed Zone Association

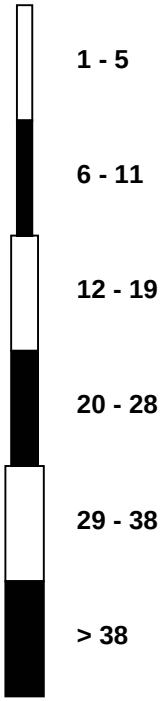
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - November 2010



Wind Speed Classes (km/h)



PASZA
Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - November 2010

Maximum Speed: 41 km/h on Nov 25 04:00

Maximum Daily Speed Average: 20.4 km/h on Nov 25

Minimum Speed: 1 km/h on Nov 4 11:00

Minimum Daily Speed Average: 3.5 km/h on Nov 28

Maximum Diurnal Speed Average: 11.7 km/h at hour 15

Minimum Diurnal Speed Average: 6.8 km/h at hour 23

Monthly Average Speed: 8.42 km/h

Percentiles: $P_1 = 2.0$ $P_{10} = 3.0$ $Q_1 = 3.8$ Median = 5.9 $Q_3 = 10.6$ $P_{90} = 16.7$ $P_{99} = 35.4$

Hours in Service: 720
Hours of Data: 720
Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	10	11	9	8	6	9	10	11	7	4	3	4	8	22	21	19	18	17	9	4	6	12	8	8	10.2	22.2
2-Nov	10	8	7	10	6	7	16	19	18	15	28	35	39	37	37	36	32	20	17	15	15	11	12	21	19.6	39.0
3-Nov	20	23	20	9	5	5	3	3	4	4	5	7	10	13	14	9	10	9	8	10	13	12	10	11	9.9	23.5
4-Nov	11	10	3	2	5	2	3	2	2	4	1	1	1	3	1	2	3	4	9	10	3	4	3	3	3.8	11.1
5-Nov	3	20	27	21	22	21	21	16	16	18	25	26	26	25	25	23	21	15	14	14	10	10	11	10	18.3	26.7
6-Nov	7	5	3	2	3	5	6	4	3	4	3	4	3	7	6	6	5	6	6	5	4	3	4	3	4.5	7.4
7-Nov	3	5	6	6	8	7	8	6	7	11	8	5	5	10	10	9	6	5	5	4	5	6	2	4	6.3	10.7
8-Nov	3	3	4	3	3	3	3	3	3	2	3	5	4	7	5	5	5	5	3	5	5	4	2	3	3.9	7.1
9-Nov	4	5	3	4	4	3	4	3	5	4	7	6	6	3	3	3	4	4	4	3	4	3	3	4	4.0	6.9
10-Nov	3	4	5	3	4	4	3	4	2	3	2	3	5	12	16	12	8	7	12	11	12	11	12	7	6.9	15.9
11-Nov	6	4	3	3	3	3	2	3	3	3	4	6	7	6	8	6	6	3	3	5	4	4	6	8	4.6	8.1
12-Nov	4	6	4	4	9	13	15	20	27	26	28	28	28	31	30	24	16	11	12	8	8	5	6	5	15.4	31.2
13-Nov	5	6	6	3	5	6	4	3	5	11	19	30	34	26	26	34	25	19	15	9	14	13	5	4	13.7	34.1
14-Nov	3	3	5	6	5	5	3	4	5	4	16	15	11	6	6	9	17	17	17	14	13	11	9	8	8.9	17.4
15-Nov	7	7	5	3	2	6	9	19	14	10	16	13	12	11	8	10	14	14	13	11	12	13	12	13	10.6	19.0
16-Nov	12	8	8	7	6	6	8	10	9	8	11	6	5	5	7	7	7	8	7	9	10	10	10	10	8.1	12.3
17-Nov	10	9	10	10	11	11	11	12	13	13	16	16	18	15	16	16	16	17	16	16	16	16	15	14	13.9	17.7
18-Nov	13	12	13	13	11	10	11	11	9	8	8	8	7	4	7	6	4	6	4	3	2	2	3	4	7.5	12.8
19-Nov	4	4	5	3	4	4	6	7	8	7	7	9	10	10	8	5	4	5	3	3	6	5	3	3	5.6	10.4
20-Nov	4	4	3	4	6	6	5	4	3	3	3	5	5	4	4	4	3	3	4	2	3	4	4	5	4.0	6.4
21-Nov	4	5	5	4	3	3	4	4	5	7	6	6	7	7	13	16	13	11	9	9	6	10	13	15	7.8	15.6
22-Nov	16	17	15	15	14	14	10	11	9	7	8	10	11	10	13	12	9	7	5	5	8	7	7	5	10.2	17.4
23-Nov	6	5	6	6	7	6	6	5	3	4	3	5	6	4	5	6	5	4	3	4	5	4	4	4	4.8	6.6
24-Nov	2	2	4	2	3	2	4	3	4	3	4	4	6	4	5	5	6	6	5	4	5	5	4	15	4.5	15.1
25-Nov	27	34	37	41	36	30	21	22	29	20	13	16	23	23	24	24	20	14	10	7	4	5	6	2	20.4	41.0
26-Nov	4	6	5	6	3	5	3	3	3	5	5	5	4	6	8	5	7	7	11	8	4	8	5	3	5.4	10.8
27-Nov	4	4	5	5	6	4	3	3	6	6	7	7	9	10	11	10	6	4	3	3	3	4	6	5	5.5	10.9
28-Nov	4	5	5	4	5	3	4	3	3	3	3	3	3	3	2	4	3	4	3	3	3	4	4	5	3.5	5.2
29-Nov	6	5	5	4	3	4	3	4	4	3	4	3	3	4	4	7	9	11	11	12	12	12	10	8	6.2	12.2
30-Nov	7	7	7	7	7	6	4	2	4	3	4	4	3	3	4	3	3	2	3	3	5	4	4	5	4.4	7.5
	7.4	8.2	8.1	7.3	7.2	7.1	7.2	7.5	7.8	7.4	9.0	9.9	10.7	11.1	11.7	11.2	10.3	8.9	8.1	7.4	7.4	7.4	6.8	7.2	Diurnal Average	
	27.0	33.8	36.5	41.0	35.8	29.6	21.4	22.4	29.2	26.2	28.5	35.2	39.0	37.1	36.7	36.4	31.5	20.4	17.4	15.9	16.3	16.2	15.2	21.3	Diurnal Maximum	

All monthly, daily, and diurnal averages have been calculated using scalar methods

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - November 2010

Maximum Value: 97.5 deg on Nov 12 01:00

Minimum Value: 2.9 deg on Nov 10 21:00

Percentiles: P_1 = 3.8 P_{10} = 6.7 Q_1 = 9.3 Median = 16.5 Q_3 = 35.7 P_{90} = 63.4 P_{99} = 91.2

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	8	7	8	17	28	12	7	7	13	24	59	63	29	17	8	8	11	10	43	17	41	27	21	12	62.9
2-Nov	6	17	29	48	46	37	10	10	6	16	6	6	6	8	5	8	8	8	10	9	25	28	10	3	47.9
3-Nov	8	7	8	38	41	35	49	76	37	18	19	12	12	11	9	9	6	8	6	5	5	5	7	6	76.4
4-Nov	7	9	25	59	43	91	76	73	59	27	50	94	66	35	51	77	58	32	8	14	71	45	53	44	94.0
5-Nov	42	14	6	12	6	4	7	7	16	8	6	7	8	6	5	5	6	6	10	8	13	14	11	14	42.2
6-Nov	15	66	54	88	26	21	19	25	19	74	93	40	90	23	16	49	17	10	9	12	21	42	42	37	93.0
7-Nov	59	20	13	11	13	21	18	17	18	19	19	31	18	17	14	17	17	44	22	37	27	36	66	63	65.9
8-Nov	54	46	66	82	15	71	23	48	73	82	52	32	51	27	9	30	11	12	30	14	20	29	38	79	82.2
9-Nov	27	42	29	72	74	92	84	76	14	36	20	18	14	33	53	46	84	25	80	69	15	23	31	24	92.2
10-Nov	24	73	74	69	68	60	84	35	64	38	60	45	25	18	10	12	11	11	16	19	3	12	5	9	84.4
11-Nov	50	55	53	25	64	34	30	20	70	77	18	16	15	16	11	17	21	33	64	38	49	64	38	40	77.4
12-Nov	97	13	59	25	8	8	7	4	4	4	5	6	7	7	7	8	5	8	7	13	15	92	79	78	97.5
13-Nov	39	48	27	80	13	19	45	68	62	10	8	5	6	6	8	5	6	7	5	8	5	5	35	54	79.6
14-Nov	81	25	22	15	43	20	48	24	28	68	17	13	11	17	18	12	4	5	6	3	6	7	16	20	81.1
15-Nov	9	12	30	22	45	28	25	5	10	10	6	8	9	7	20	23	7	8	9	11	10	9	15	10	45.5
16-Nov	12	15	17	18	20	30	15	13	18	8	12	30	53	38	25	18	16	15	14	15	13	13	9	10	53.0
17-Nov	9	11	10	10	9	7	11	9	8	8	8	7	10	10	7	8	7	7	7	7	7	7	8	8	11.2
18-Nov	12	11	8	9	11	12	12	9	14	16	19	17	18	62	6	13	28	13	20	58	73	54	59	14	72.6
19-Nov	14	40	81	56	24	32	15	16	15	12	17	9	12	9	11	23	28	13	83	73	34	13	30	12	82.6
20-Nov	64	11	46	37	11	11	23	23	21	15	16	17	5	15	61	21	25	21	32	25	11	85	23	16	84.7
21-Nov	23	21	7	9	9	14	8	23	11	26	35	13	11	13	8	5	6	6	10	17	15	16	8	6	34.9
22-Nov	6	6	7	7	7	7	11	8	8	11	20	10	10	21	12	10	14	19	39	19	16	23	15	21	38.8
23-Nov	24	28	25	14	13	10	11	20	35	14	56	18	50	40	14	7	9	8	12	8	7	11	10	15	56.1
24-Nov	64	84	10	94	74	85	7	78	84	41	17	20	13	16	21	22	9	16	24	23	27	18	46	9	93.7
25-Nov	5	4	4	4	4	5	8	9	4	7	14	9	8	5	7	6	8	8	11	27	70	37	19	79	78.9
26-Nov	58	8	16	61	40	8	57	48	43	13	12	15	65	82	10	56	6	49	17	20	62	22	34	85	84.6
27-Nov	63	68	27	11	20	35	38	21	59	31	7	13	9	13	9	10	13	12	48	66	67	58	16	19	67.5
28-Nov	18	15	9	13	18	11	18	17	14	9	11	37	31	39	19	29	44	77	61	20	80	14	14	11	80.2
29-Nov	9	8	8	15	17	18	14	22	18	38	16	20	10	12	79	10	6	5	6	7	9	7	8	8	79.0
30-Nov	9	10	12	11	12	16	71	46	34	31	33	30	47	34	26	53	33	62	47	41	35	74	58	80	80.1
	97.5	84.2	80.9	93.7	73.8	92.2	84.4	77.7	84.4	82.2	93.0	94.0	89.6	82.3	79.0	76.5	84.1	77.4	82.6	73.1	80.2	91.5	78.8	84.6	

PASZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 13.1 ppb on Nov 2 17:00 Maximum Daily Average: 2.7 ppb on Nov 5

Minimum Value: 0 ppb on Nov 1 15:00 Minimum Daily Average: 0.1 ppb on Nov 15
Maximum Diurnal Average: 1.0 ppb at hour 14 Minimum Diurnal Average: 0.1 ppb at hour 4
Monthly Average: 0.42 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 7.8

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	32
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	10	1	0	0	0	A	0	0.9	9.9
2-Nov	0	0	0	0	0	0	0	1	4	5	2	1	4	5	4	8	13	5	0	0	0	A	0	0	2.2	13.1
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.3
4-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0.2	0.5
5-Nov	0	0	0	0	0	0	1	5	3	1	10	10	8	3	5	5	2	4	A	3	0	0	0	0	2.7	10.4
6-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0.3	0.7
7-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0.2	0.6
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0.2	1.0
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
11-Nov	0	0	0	0	0	0	0	0	0	C	C	C	3	2	0	0	0	0	0	0	0	0	0	0	0.3	3.3
12-Nov	0	0	0	0	0	A	0	0	6	9	0	0	0	0	4	4	0	0	1	0	0	0	0	0	1.1	8.7
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	10	0	0	2	1	0	0	0	0	0	0	0.7	10.0
14-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
16-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
18-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0.4	0.9
19-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.4
20-Nov	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
21-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.5
22-Nov	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
23-Nov	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0.4	0.9
24-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
25-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
26-Nov	0	0	0	0	0	A	0	0	0	0	P	P	P	P	0	0	0	0	0	0	0	0	0	0	0.2	0.4
27-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.9
29-Nov	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.8
30-Nov	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.7	0.7	0.7	1.0	1.0	0.7	0.8	0.9	0.8	0.2	0.3	0.2	0.2	0.1	0.1	Diurnal Average	
	0.4	0.3	0.3	0.4	0.5	0.5	0.7	4.7	5.6	8.7	10.1	10.4	8.0	10.0	5.2	7.9	13.1	9.9	1.1	3.3	0.5	0.6	0.5	0.4	Diurnal Maximum	

C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

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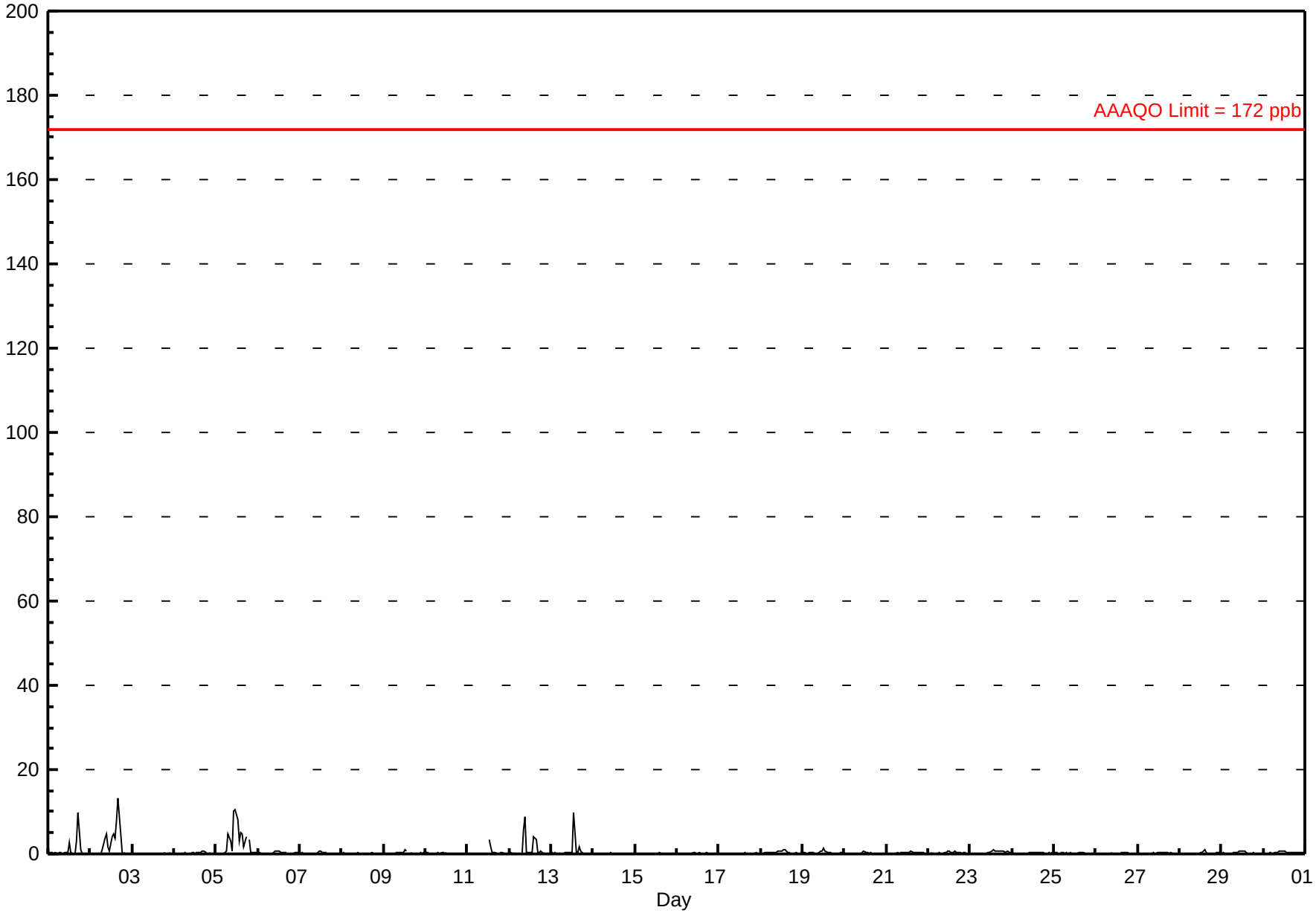
Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - November 2010

Maximum Value: 32.3 ppb on Nov 2 17:00

Maximum Daily Average: 8.0 ppb on Nov 5

Minimum Value: 0 ppb on Nov 24 04:00

Minimum Daily Average: 0.4 ppb on Nov 15

Maximum Diurnal Average: 3.2 ppb at hour 13

Minimum Diurnal Average: 0.4 ppb at hour 4

Monthly Average: 1.30 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.1$ $P_{99} = 19.1$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	32
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	1	0	1	0	1	1	0	0	1	1	18	3	0	0	18	24	6	0	1	0	A	0	3.4	24.1
2-Nov	0	0	0	0	0	0	0	4	16	19	11	7	18	16	13	17	32	18	1	0	1	A	0	0	7.7	32.3
3-Nov	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0.4	0.6
4-Nov	1	1	0	0	0	0	1	0	0	0	1	1	0	1	1	1	1	1	1	A	2	1	1	0	0.7	2.4
5-Nov	0	0	0	0	1	1	2	11	13	3	21	21	20	13	18	17	11	19	A	10	1	1	1	1	8.0	21.1
6-Nov	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	A	0	0	0	1	1	1	0.6	1.4
7-Nov	0	0	1	1	0	0	0	0	0	0	1	2	2	1	1	1	A	0	0	0	0	0	0	0	0.6	2.0
8-Nov	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	1	1	1	1	0	1	0	0.5	0.8
9-Nov	0	0	0	0	0	0	0	0	1	1	1	1	5	3	A	0	0	0	0	0	0	1	0	1	0.8	5.2
10-Nov	1	1	0	0	0	0	0	0	0	1	1	0	1	A	0	0	0	1	0	0	0	0	0	0	0.4	0.6
11-Nov	0	0	0	0	0	0	0	0	0	C	C	C	9	4	1	0	0	0	0	0	0	0	0	0	1.0	8.7
12-Nov	1	0	0	0	0	A	0	0	17	17	1	0	1	0	14	17	0	0	1	0	0	0	0	0	3.3	17.4
13-Nov	0	1	0	0	A	0	0	0	1	1	1	1	3	19	1	0	9	8	1	0	0	1	0	0	2.2	19.1
14-Nov	0	0	0	A	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
15-Nov	0	0	A	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.6
16-Nov	1	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0.4	1.1
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0.4	0.6
18-Nov	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	A	0	0.8	1.4
19-Nov	1	1	0	0	1	1	0	0	1	1	1	2	2	1	1	1	0	1	0	0	0	0	1	1	0.7	1.9
20-Nov	0	0	0	0	0	A	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	1	0.4	1.1
21-Nov	0	0	0	0	A	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0.6	1.9
22-Nov	0	1	1	A	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	1.1
23-Nov	0	0	1	1	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
24-Nov	1	0	0	0	A	0	0	0	0	1	1	0	0	1	0	0	0	1	1	1	1	1	0	1	0.5	0.9
25-Nov	1	1	1	A	1	1	1	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0.5	0.7
26-Nov	0	0	0	0	0	A	0	0	0	1	P	P	P	P	1	1	1	1	1	0	0	0	1	0	0.5	0.9
27-Nov	0	0	0	0	0	A	0	0	1	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0.5	0.8
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	1	1	1	1	0.5	1.5
29-Nov	0	1	0	A	1	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0.6	1.2
30-Nov	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.9	2.0	1.9	1.8	1.7	3.2	2.6	2.2	2.3	2.9	2.8	0.8	0.8	0.6	0.5	0.5	0.5	Diurnal Average	
	0.7	1.2	0.7	0.8	0.9	1.1	1.6	11.1	17.1	18.7	20.6	21.1	20.2	19.1	18.0	17.2	32.3	24.1	5.7	10.1	2.4	1.0	0.9	1.2	Diurnal Maximum	

C - Calibration P - Power Failure A - Automated Daily Zero Span

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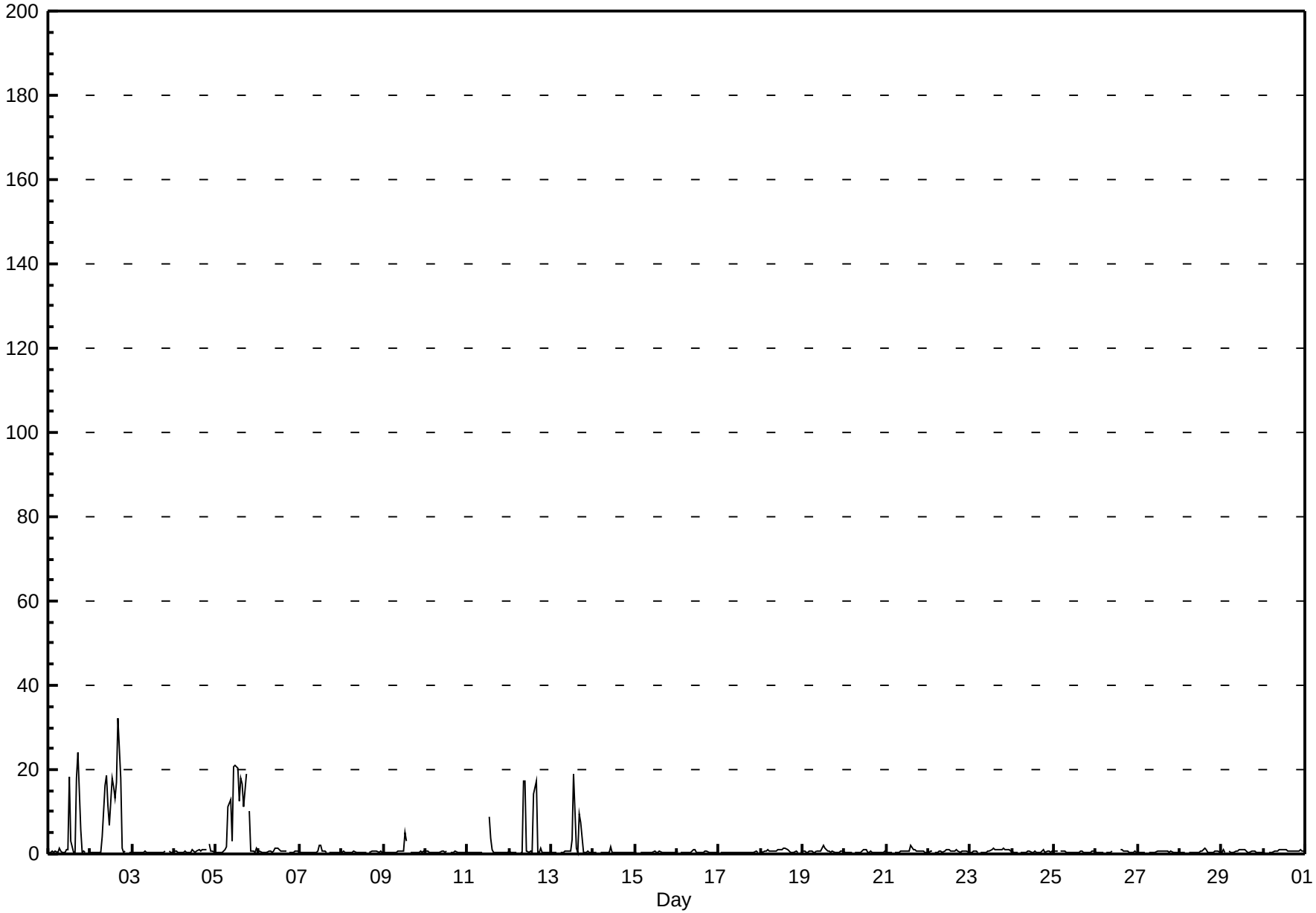
Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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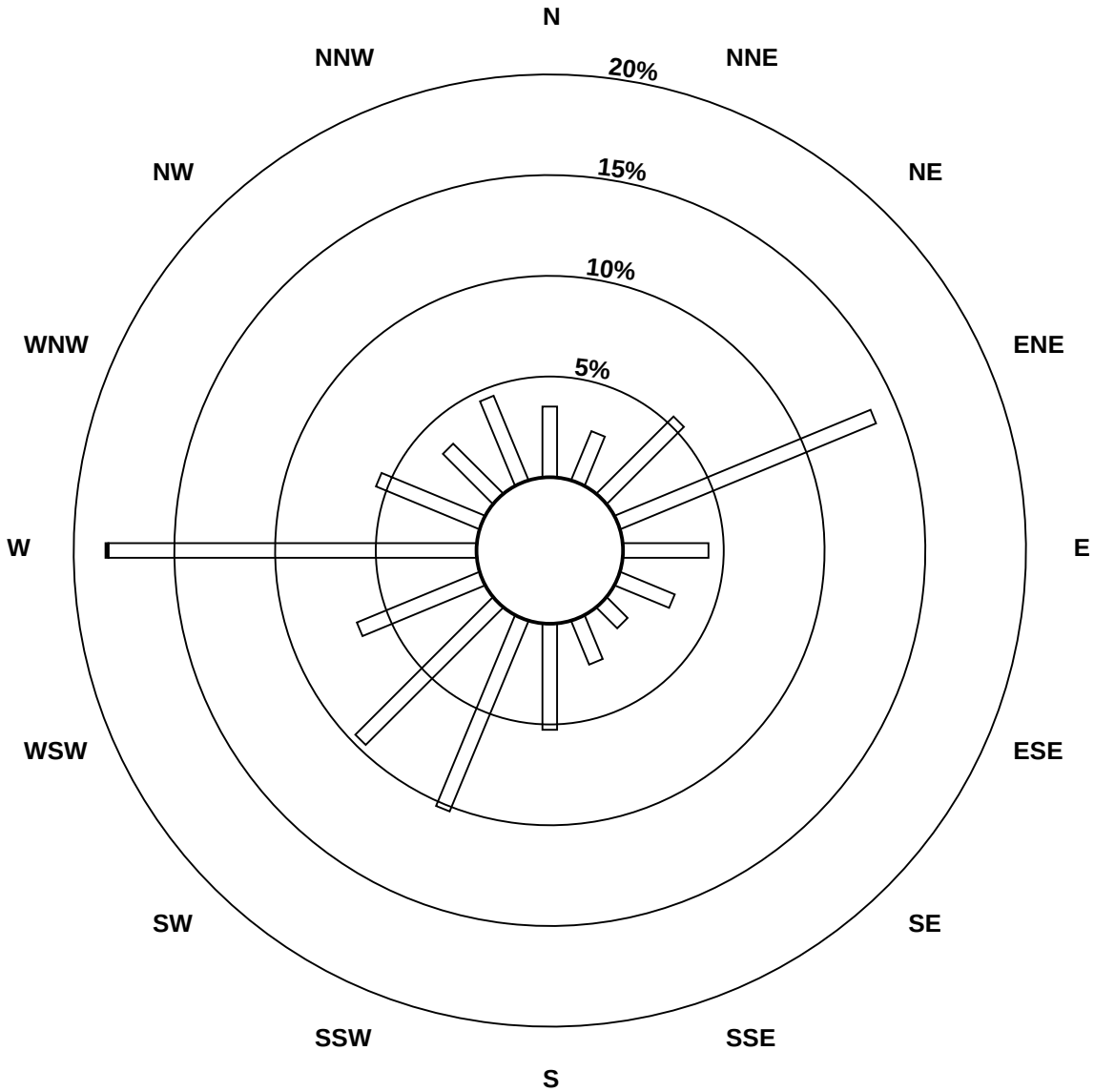
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - November 2010



Pollutant Classes (ppb)

- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

FOCUS AIR QUALITY MONITORING

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Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.1 ppb on Nov 24 18:00 Maximum Daily Average: 0.8 ppb on Nov 29

Minimum Value: 0 ppb on Nov 11 09:00 Minimum Daily Average: 0.4 ppb on Nov 11
Maximum Diurnal Average: 0.6 ppb at hour 19 Minimum Diurnal Average: 0.5 ppb at hour 5
Monthly Average: 0.56 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.8$ $P_{99} = 1.3$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	32
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	1	A	0	0.6	1.1
2-Nov	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0.4	0.6
3-Nov	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.7
4-Nov	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	A	1	1	1	1	0.6	1.1
5-Nov	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	0	1	1	0.6	0.9
6-Nov	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.6	1.4
7-Nov	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	0	0	0	0	0.5	0.8
8-Nov	1	1	1	0	0	0	1	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.6	1.0
9-Nov	1	0	0	0	0	0	0	1	1	1	0	1	0	0	A	0	0	0	0	0	0	1	1	1	0.5	0.6
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	1	0	0	0	0	0	1	0.6	1.0
11-Nov	0	0	0	0	0	0	0	0	0	0	C	C	C	1	0	0	0	0	0	0	0	0	1	0	0.4	0.6
12-Nov	1	1	1	1	1	A	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0.5	0.8
13-Nov	1	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0	0.5	0.7
14-Nov	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.7
15-Nov	1	1	A	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	1	0.5	0.6
16-Nov	0	A	0	0	1	1	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	1	0.5	0.6
17-Nov	A	1	0	1	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	1	1	0	0	A	0.5	0.6
18-Nov	1	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	1	0.5	0.6
19-Nov	1	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	1	0	0	1	0	1	1	0.5	0.6
20-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
21-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.6	0.8
22-Nov	0	0	0	A	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	0	0	0.5	0.5
23-Nov	0	0	0	0	0	A	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.7	1.2
24-Nov	1	1	1	1	A	0	1	0	0	0	1	0	0	0	1	1	1	2	2	1	1	1	1	1	0.8	2.1
25-Nov	0	0	0	A	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.5	0.6
26-Nov	1	0	0	0	0	A	0	0	0	1	P	P	P	P	1	1	1	1	1	0	0	0	0	0	0.5	0.7
27-Nov	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.1
28-Nov	0	0	0	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
29-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.8	1.3
30-Nov	0	0	A	0	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0.8	1.9
	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	0.8	0.9	1.1	1.0	0.8	1.0	1.1	1.1	1.0	1.0	1.3	1.3	1.1	1.9	0.9	0.9	1.4	2.1	1.8	1.2	1.2	1.3	1.3	1.2	Diurnal Maximum	

C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

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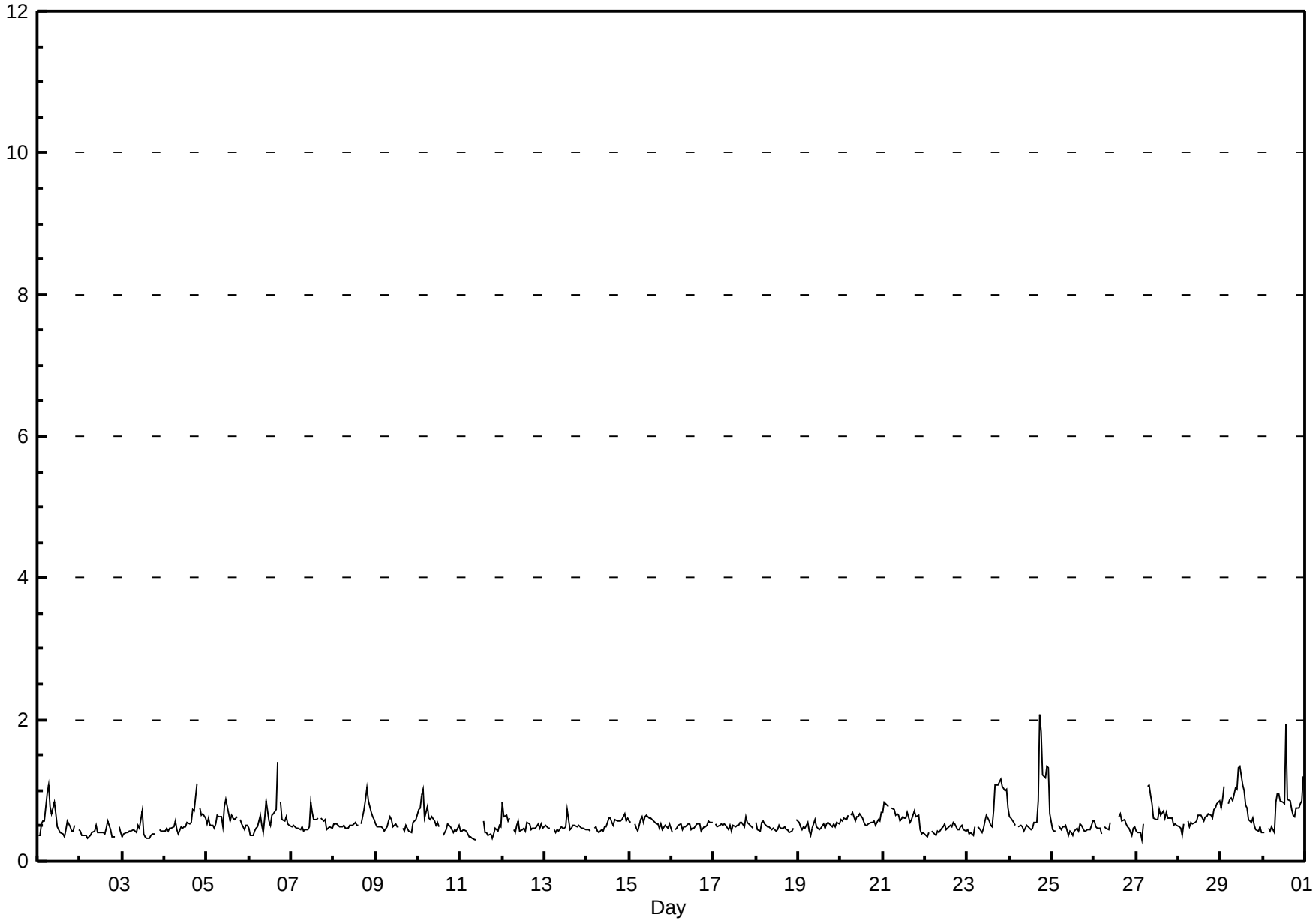
Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2010

Maximum Value: 3.5 ppb on Nov 30 14:00

Maximum Daily Average: 1.2 ppb on Nov 24

Minimum Value: 1 ppb on Nov 3 15:00

Minimum Daily Average: 0.8 ppb on Nov 3

Maximum Diurnal Average: 1.0 ppb at hour 19

Minimum Diurnal Average: 0.9 ppb at hour 5

Monthly Average: 0.93 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 1.8$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	32
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.5
2-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
3-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.3
4-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1	1	1	1.0	2.3
5-Nov	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.7
6-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1.0	2.0
7-Nov	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.6
8-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1.0	1.5
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	1.1
10-Nov	1	1	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.7
11-Nov	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
12-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
13-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
14-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
15-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
16-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
17-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.0
18-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.0
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
20-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
21-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3
22-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
23-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1.1	1.6
24-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2	2	2	2	1.2	2.6
25-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
26-Nov	1	1	1	1	1	A	1	1	1	1	P	P	P	P	1	1	1	1	1	1	1	1	1	1	0.9	1.1
27-Nov	1	1	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
29-Nov	1	1	2	A	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.8
30-Nov	1	1	A	1	1	1	1	1	1	2	1	1	1	4	1	1	1	1	1	1	1	1	1	2	1.2	3.5
	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0	0.9	0.9	1.0	1.0	1.0	0.9	1.0	0.9	1.0	0.9	Diurnal Average	
	1.3	1.4	1.7	1.5	1.2	1.5	1.5	1.4	1.6	1.5	1.8	1.8	1.5	3.5	1.4	1.3	2.0	2.6	2.6	1.7	2.3	2.1	1.8	1.7	Diurnal Maximum	

C - Calibration P - Power Failure A - Automated Daily Zero Span

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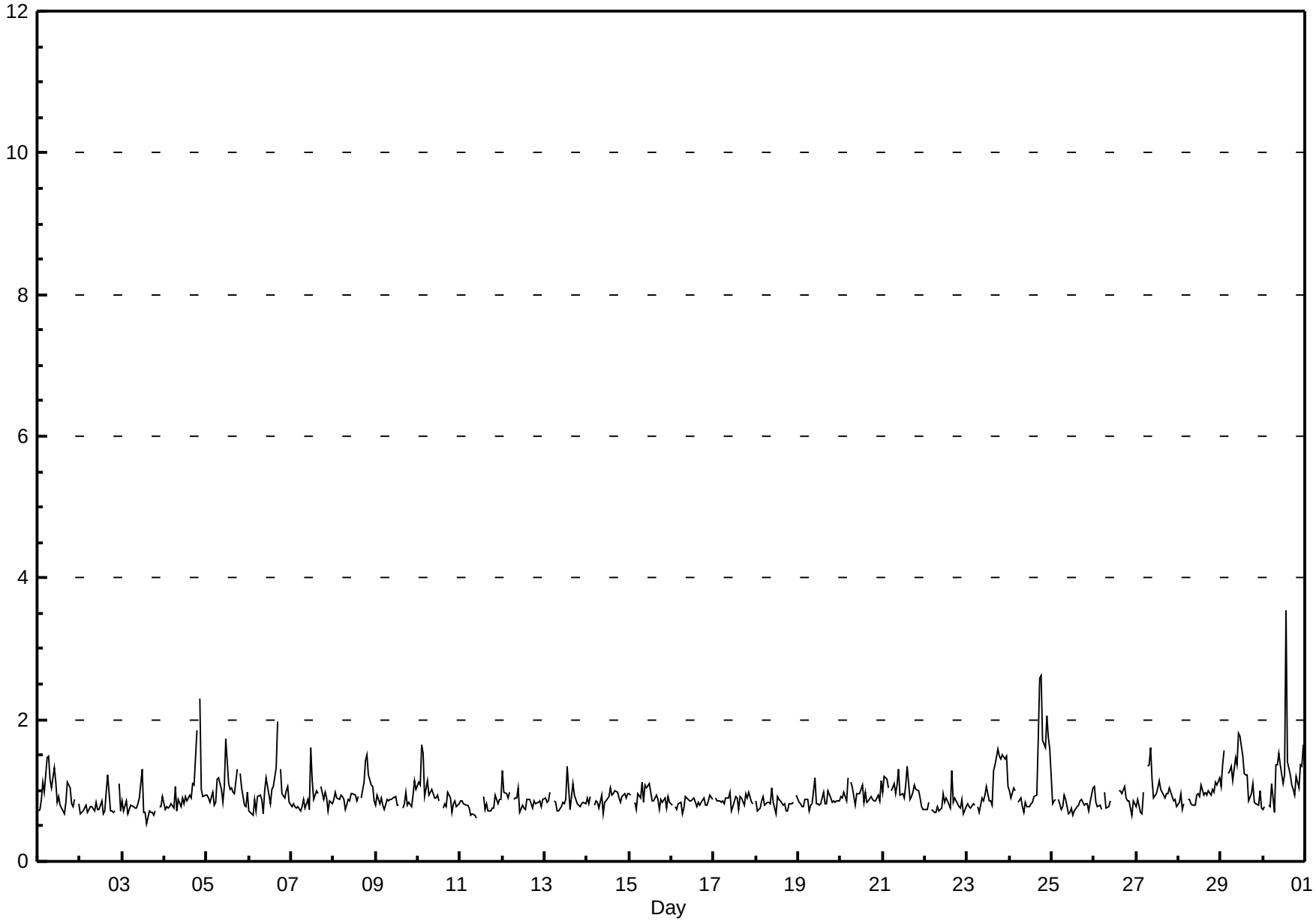
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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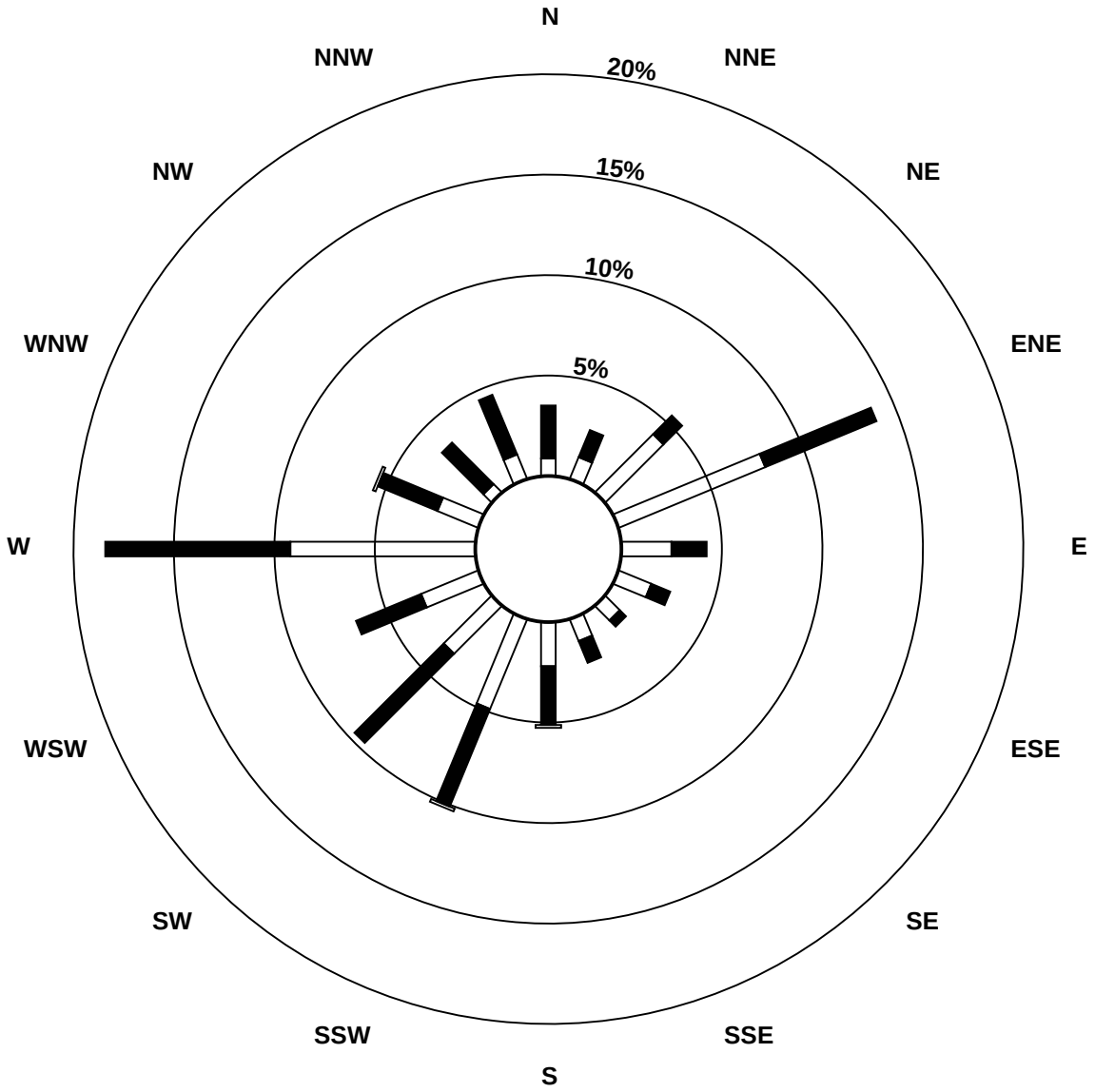
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - November 2010



Pollutant Classes (ppb)

- 0 - 1
- 1 - 2
- 2 - 3
- 4 - 10
- > 10

FOCUS AIR QUALITY MONITORING

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Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Evergreen Park - November 2010

Number of Exceedences: 1-hr: 27 24-hr: 3
Maximum Value: 420.8 $\mu g/m^3$ on Nov 2 11:00
Maximum Daily Average: 133.5 $\mu g/m^3$ on Nov 2

Minimum Value: 0 $\mu g/m^3$ on Nov 1 01:00
Maximum Diurnal Average: 44.9 $\mu g/m^3$ at hour 14
Monthly Average: 15.92 $\mu g/m^3$

Minimum Daily Average: 0.7 $\mu g/m^3$ on Nov 15
Minimum Diurnal Average: 4.4 $\mu g/m^3$ at hour 4
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 2.0 Median = 5.0 Q_3 = 12.2 P_{90} = 25.7 P_{99} = 311.5

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	4
Percent Operational Time:	95.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	0	0	0	4	3	34	8	48	55	5	1	93	90	2	BD	3	2	0	1	15.1	92.7
2-Nov	0	0	0	0	1	7	15	52	112	171	421	362	398	413	362	359	324	60	BD	0	0	2	2	7	133.5	420.8
3-Nov	34	5	0	0	0	4	3	9	3	14	7	3	7	4	2	0	0	0	0	0	0	0	0	0	4.0	33.8
4-Nov	0	0	0	0	5	3	7	4	2	3	9	5	6	7	17	31	82	47	44	13	6	9	7	6	13.2	81.5
5-Nov	7	14	12	3	10	8	28	123	83	41	157	242	185	250	176	249	117	115	65	62	15	0	0	0	81.7	249.6
6-Nov	0	0	0	0	0	0	3	3	0	9	15	13	15	18	11	7	4	2	1	2	4	11	6	6	5.4	17.6
7-Nov	6	6	6	8	6	5	2	1	2	6	3	10	11	13	13	14	8	6	4	4	3	3	4	2	5.9	13.7
8-Nov	3	3	3	3	6	5	3	3	4	16	16	4	4	4	5	14	7	15	14	10	9	7	5	4	7.0	16.1
9-Nov	2	2	4	5	4	2	6	6	7	15	18	26	26	23	24	12	10	9	12	11	9	16	13	15	11.6	26.1
10-Nov	21	17	15	8	9	7	9	10	12	20	24	24	34	33	26	22	62	55	43	9	5	4	4	4	19.9	61.6
11-Nov	5	4	4	4	10	10	4	6	9	C	34	15	C	7	5	5	8	14	14	6	15	15	13	11	9.8	34.5
12-Nov	14	14	14	14	10	9	2	3	34	34	0	7	66	107	39	18	4	0	2	0	0	0	0	0	16.4	106.5
13-Nov	1	1	2	1	1	0	1	1	5	6	0	4	88	120	34	5	4	2	0	0	0	0	0	0	11.6	120.0
14-Nov	0	0	0	1	2	1	1	2	1	2	N	N	N	N	N	N	N	N	N	N	N	0	0	0	--	2.2
15-Nov	0	0	0	0	0	1	3	0	0	1	1	0	1	0	1	0	0	0	0	0	0	2	4	3	0.7	3.8
16-Nov	2	2	2	1	2	2	2	1	2	2	3	2	3	2	2	1	2	5	4	3	3	3	1	2	2.3	4.8
17-Nov	3	2	1	2	3	2	4	3	2	1	4	7	4	2	2	7	5	6	6	4	2	3	3	2	3.3	6.7
18-Nov	2	1	2	1	2	2	0	1	1	2	2	3	4	3	3	0	0	0	0	1	2	2	11	23	2.8	22.9
19-Nov	22	8	5	4	2	2	1	4	5	7	M	20	10	7	9	10	5	8	5	5	5	8	10	13	7.6	21.7
20-Nov	5	11	12	19	13	13	26	17	9	6	3	2	0	0	0	1	0	0	2	2	3	5	19	8	7.3	26.1
21-Nov	6	9	8	7	7	7	8	8	7	9	10	14	14	11	10	2	3	2	3	5	8	5	0	3	6.9	14.1
22-Nov	3	3	3	3	4	4	5	10	13	11	10	4	0	C	C	8	6	3	2	2	1	3	2	3	4.7	12.5
23-Nov	4	8	8	14	37	30	19	11	10	12	62	57	21	26	22	29	14	13	14	13	13	13	12	8	19.5	61.6
24-Nov	5	5	5	5	BD	BD	28	5	4	8	8	6	BD	49	54	40	46	151	119	59	21	17	10	BD	32.3	151.3
25-Nov	17	10	1	3	0	0	0	0	N	N	2	0	2	0	BD	BD	BD	BD	BD	0	BD	BD	0	4	--	16.5
26-Nov	0	0	0	0	0	0	0	0	2	4	P	P	P	P	5	3	8	6	7	7	6	6	7	8	3.4	8.2
27-Nov	6	5	11	4	3	6	5	7	8	21	5	2	0	2	3	3	10	4	4	5	4	4	4	4	5.3	20.6
28-Nov	5	4	4	5	3	3	3	3	3	3	6	7	16	16	12	11	11	14	12	13	14	13	12	12	8.5	16.4
29-Nov	10	7	7	10	11	13	13	10	12	12	23	36	44	25	11	4	7	14	21	14	11	11	8	7	14.2	44.2
30-Nov	7	8	6	6	4	4	5	14	15	17	16	18	16	14	13	13	15	15	15	14	13	14	15	13	12.1	17.9
	6.3	5.0	4.6	4.4	5.3	5.3	6.9	10.5	12.8	16.3	33.0	32.3	39.3	44.9	32.2	31.1	30.5	23.4	15.4	9.3	6.2	6.1	5.7	5.8	Diurnal Average	
	33.8	16.7	14.9	19.0	37.4	30.3	27.7	122.7	112.2	171.1	420.8	362.1	397.5	413.4	362.1	359.1	323.8	151.3	118.6	61.7	20.6	17.3	19.1	22.9	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance N - Not Valid BD - Baseline Drift
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

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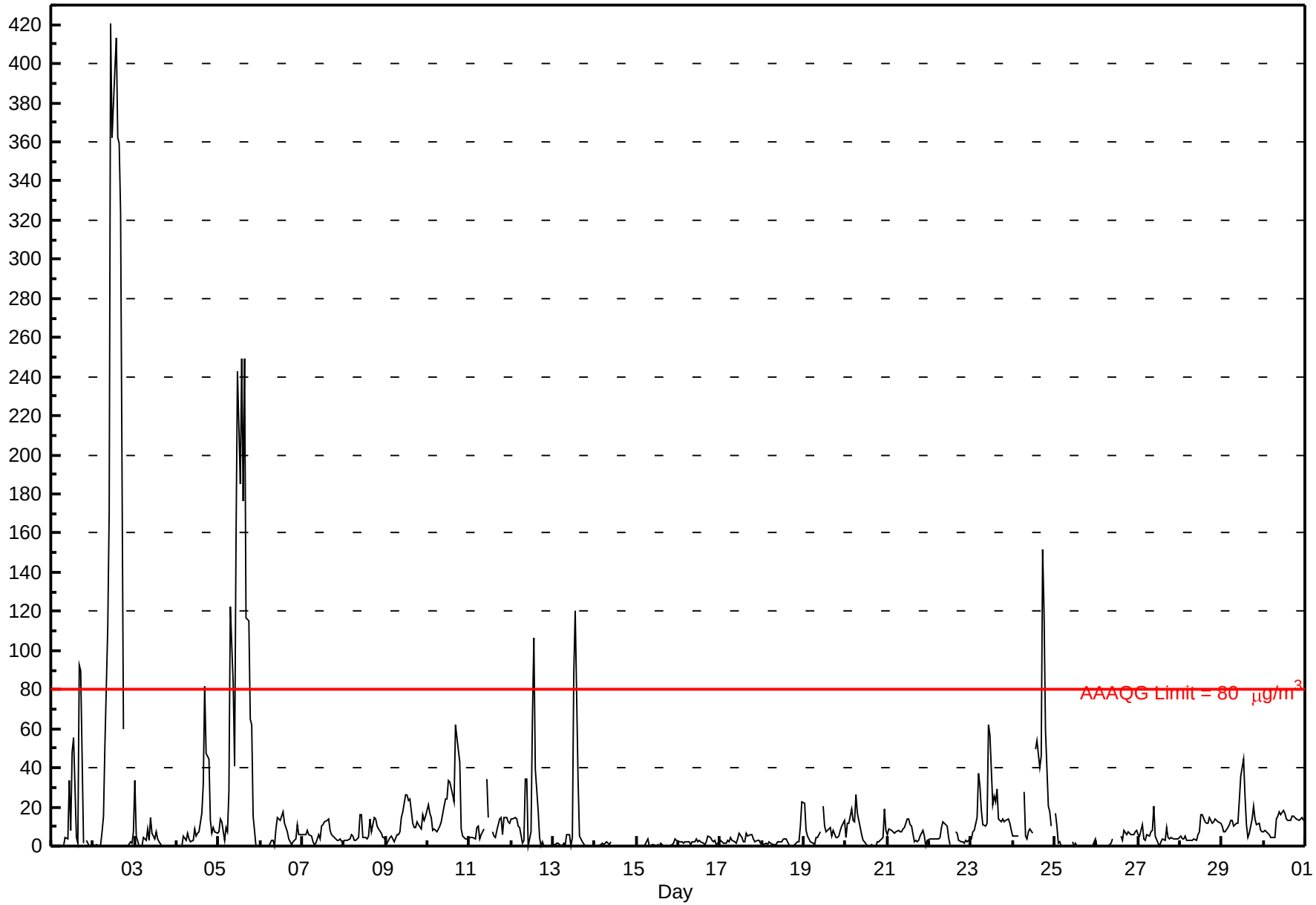
Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Evergreen Park - November 2010



PASZA
Peace Air Shed Zone Association

Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Evergreen Park - November 2010

Maximum Value: 450.0 $\mu g/m^3$ on Nov 2 11:00

Maximum Daily Average: 175.3 $\mu g/m^3$ on Nov 2

Minimum Value: 0 $\mu g/m^3$ on Nov 1 20:00

Minimum Daily Average: 3.6 $\mu g/m^3$ on Nov 15

Maximum Diurnal Average: 70.1 $\mu g/m^3$ at hour 14

Minimum Diurnal Average: 8.9 $\mu g/m^3$ at hour 3

Monthly Average: 26.91 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 2.4 Q_1 = 5.3 Median = 9.5 Q_3 = 18.4 P_{90} = 47.9 P_{99} = 450.0

Hours in Service:	720
Hours of Data:	694
Hours of Missing Data:	26
Hours of Calibration:	4
Percent Operational Time:	96.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	2	3	1	2	12	7	56	16	95	213	9	4	177	155	37	0	7	8	2	4	33.9	212.7
2-Nov	4	3	4	2	4	26	27	83	188	416	450	450	450	450	450	450	450	270	0	5	1	7	3	15	175.3	450.0
3-Nov	59	20	2	1	2	8	7	20	9	30	12	5	17	13	7	3	0	0	0	2	2	3	2	2	9.4	59.3
4-Nov	0	0	5	4	11	10	11	10	5	6	23	9	9	11	43	77	129	68	85	25	14	16	13	9	24.7	128.9
5-Nov	9	25	30	16	52	19	84	163	162	122	291	450	306	346	257	418	158	246	97	99	49	3	0	6	142.1	450.0
6-Nov	4	3	1	1	1	2	9	9	2	21	25	25	24	30	17	14	8	4	2	4	10	16	8	10	10.4	29.9
7-Nov	9	10	9	10	11	15	5	4	5	17	10	33	26	17	18	26	11	11	8	6	4	5	7	5	11.8	32.5
8-Nov	7	6	6	6	9	10	6	8	7	35	32	12	15	9	11	29	17	20	20	13	12	9	9	7	13.0	34.6
9-Nov	4	7	5	12	13	5	11	8	11	26	30	45	42	34	32	19	17	17	22	15	12	26	22	24	19.1	45.0
10-Nov	26	19	21	14	14	10	10	13	25	27	34	28	49	82	43	39	125	113	95	18	10	10	5	7	34.9	125.4
11-Nov	8	9	7	7	27	27	7	13	13	C	69	26	C	51	7	7	11	25	32	14	18	18	17	14	19.4	68.6
12-Nov	15	16	16	16	13	17	13	6	73	66	10	16	151	233	57	70	18	3	8	0	0	1	0	1	34.1	232.7
13-Nov	3	3	4	4	4	3	4	2	14	15	2	24	208	161	133	11	13	17	3	1	1	0	0	2	26.4	207.8
14-Nov	1	3	2	3	4	2	3	17	3	4	N	N	N	N	N	N	N	N	N	N	N	1	2	4	--	16.6
15-Nov	1	1	0	0	0	4	10	4	3	4	5	3	3	2	7	7	1	1	1	1	2	3	19	4	3.6	19.2
16-Nov	7	5	6	4	6	6	5	4	8	7	7	5	6	6	5	3	6	9	8	6	6	7	4	5	5.9	8.9
17-Nov	7	7	6	6	5	7	7	7	10	7	10	12	9	7	6	12	10	10	9	14	5	7	7	5	8.1	14.2
18-Nov	7	4	5	4	5	4	4	5	4	6	5	6	10	9	7	3	3	3	4	6	9	6	21	28	7.0	28.1
19-Nov	26	19	8	8	6	6	7	8	10	11	M	33	14	10	18	44	10	13	7	8	8	11	15	17	13.7	44.0
20-Nov	12	18	15	25	18	37	65	21	17	9	7	4	3	3	2	3	3	3	6	5	5	8	86	17	16.3	85.5
21-Nov	9	13	10	10	9	11	11	10	11	14	13	19	21	14	14	5	6	6	6	9	14	7	6	6	10.6	21.1
22-Nov	7	7	6	7	7	7	8	13	16	14	13	9	4	C	C	15	18	7	6	6	5	6	6	8	8.9	18.0
23-Nov	10	15	15	23	71	48	26	18	14	19	101	95	26	32	29	36	26	18	17	16	17	22	17	11	30.0	101.2
24-Nov	9	9	10	64	5	20	129	9	9	26	18	89	26	73	82	55	83	183	171	77	44	26	14	8	51.6	183.5
25-Nov	48	36	8	9	9	9	11	0	N	N	11	8	15	6	BD	BD	BD	2	0	3	BD	3	2	6	10.3	47.6
26-Nov	4	2	0	0	0	0	0	2	3	5	P	P	P	P	8	6	11	9	8	11	7	7	9	9	5.1	11.0
27-Nov	8	7	39	7	4	7	6	9	16	31	16	6	4	6	7	18	17	5	5	6	5	5	5	6	10.3	39.4
28-Nov	8	5	5	9	4	4	5	4	5	5	8	10	24	23	20	15	14	19	15	15	16	14	14	14	11.5	24.5
29-Nov	14	11	9	12	15	20	24	12	13	14	27	57	58	33	17	6	10	20	23	18	13	13	11	9	19.1	57.9
30-Nov	8	13	9	11	6	6	7	20	24	22	22	20	19	19	16	15	19	23	23	16	15	16	16	15	15.8	23.5
	11.2	9.9	8.9	10.0	11.2	11.8	17.5	16.9	23.8	35.2	48.4	54.2	60.5	70.1	48.9	50.3	48.9	44.2	24.8	14.3	11.2	9.4	11.4	9.3	Diurnal Average	
	59.3	35.8	39.4	63.9	70.7	48.0	129.2	163.4	188.2	416.2	450.0	450.0	450.0	450.0	450.0	450.0	450.0	270.3	171.4	98.9	49.4	26.0	85.5	28.1	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance N - Not Valid BD - Baseline Drift

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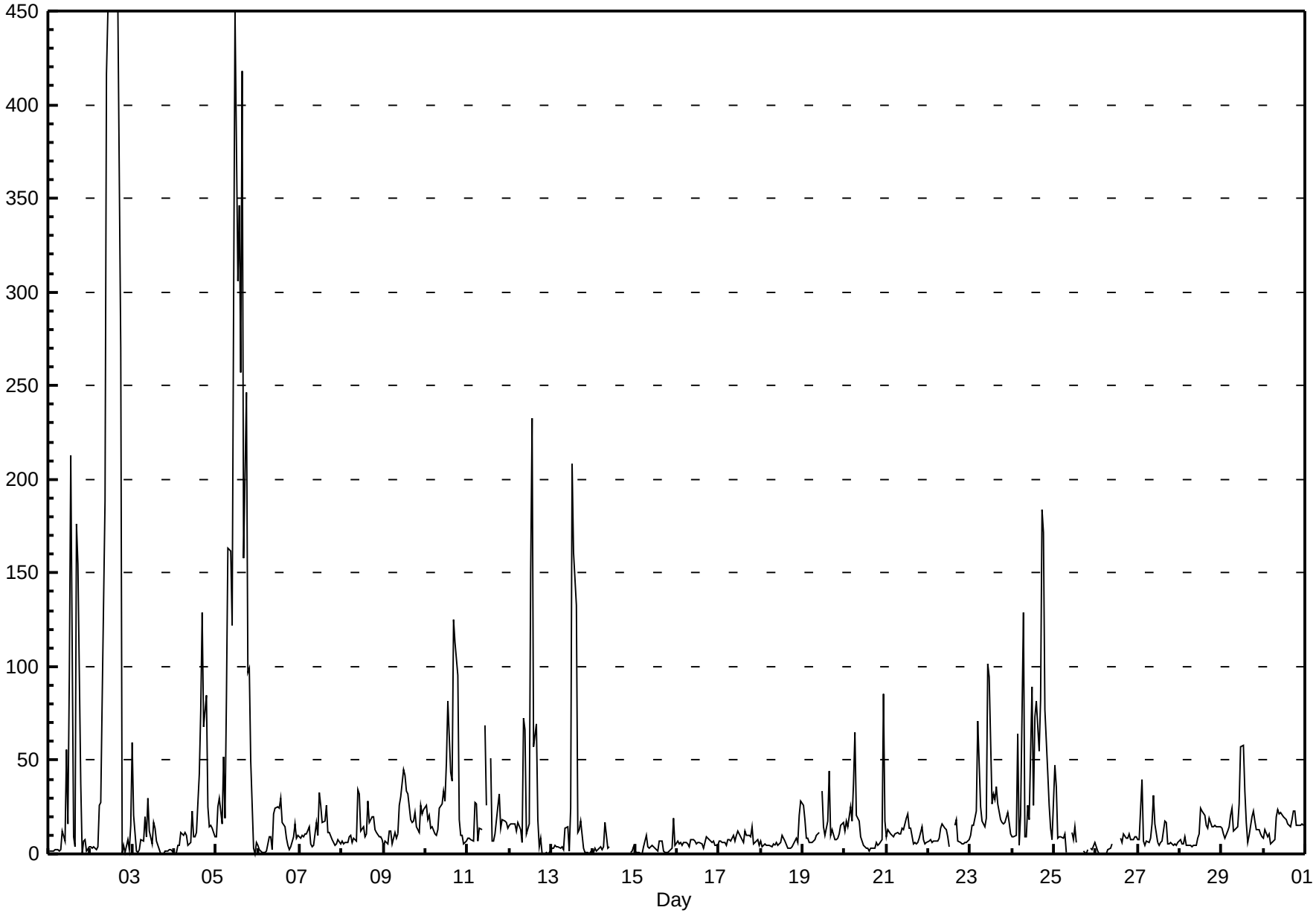
Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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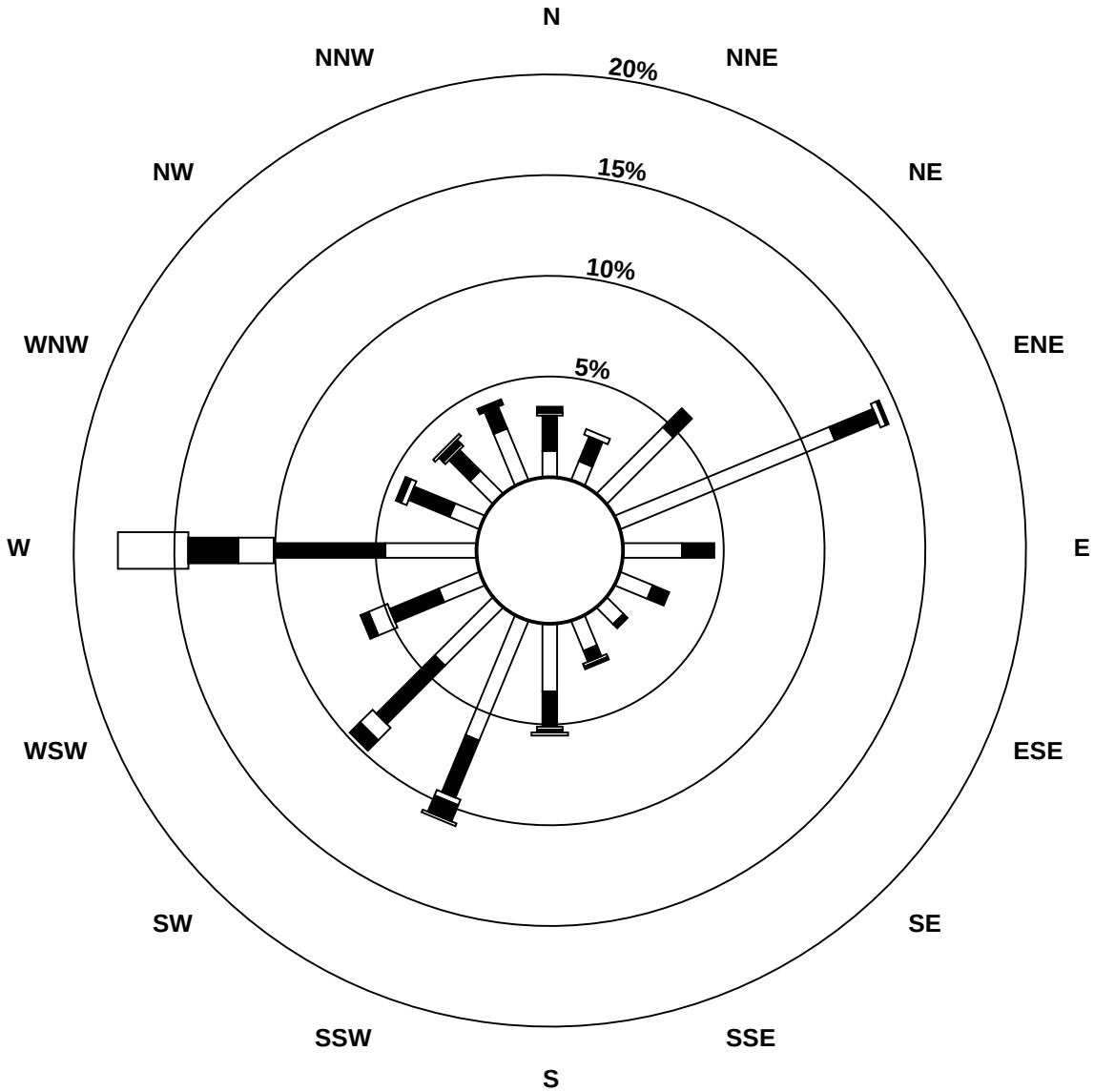
Pollutant Rose

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Evergreen Park - November 2010



Pollutant Classes ($\mu g/m^3$)

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

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Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.9 ^{o}C on Nov 1 14:00 Maximum Daily Average: 7.1 ^{o}C on Nov 2

Minimum Value: -32 ^{o}C on Nov 23 09:00 Minimum Daily Average: -26.8 ^{o}C on Nov 23
Maximum Diurnal Average: -2.0 ^{o}C at hour 15 Minimum Diurnal Average: -7.8 ^{o}C at hour 9
Monthly Average: -5.83 ^{o}C Percentiles: P_1 = -31.1 P_{10} = -21.0 Q_1 = -12.3 Median = -4.3 Q_3 = 2.4 P_{90} = 5.7 P_{99} = 11.3

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	3	3	3	3	3	3	4	5	5	7	10	11	12	11	11	11	9	7	5	4	6	5	5	6.3	11.9
2-Nov	5	4	3	3	2	4	8	8	7	8	9	10	10	11	11	11	10	8	8	7	6	5	4	7	7.1	11.2
3-Nov	8	8	7	6	5	4	2	0	0	4	6	7	10	11	12	11	11	10	8	7	6	5	4	4	6.6	11.9
4-Nov	4	3	1	-1	-1	-1	-2	-2	-2	-1	2	4	4	6	7	7	6	5	4	4	3	2	1	1	2.2	6.6
5-Nov	1	6	8	6	6	6	6	6	5	5	5	5	5	6	6	6	6	5	3	3	2	1	0	-1	4.5	8.5
6-Nov	-2	-3	-4	-6	-7	-8	-7	-6	-8	-7	-3	-1	1	2	4	4	3	1	-1	-2	-3	-4	-5	-6	-2.7	4.2
7-Nov	-6	-7	-6	-5	-4	-3	-2	-2	-2	-1	0	1	1	0	1	1	1	0	-1	-2	-3	-3	-3	-4	-2.1	0.8
8-Nov	-5	-6	-7	-8	-8	-9	-9	-9	-8	-6	-2	-1	2	3	3	3	4	1	-1	-1	-2	-3	-5	-6	-3.3	3.7
9-Nov	-6	-8	-8	-8	-8	-8	-8	-8	-8	-7	-4	-1	1	3	4	5	3	-1	-2	-2	-2	-2	-2	-2	-3.2	4.8
10-Nov	-2	-2	-2	-2	-3	-3	-3	-3	-3	-3	-2	0	2	4	5	5	4	2	1	0	0	-1	-1	-1	-0.3	5.1
11-Nov	-3	-5	-7	-9	-9	-10	-11	-12	-12	-11	-9	-6	-3	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-5.2	-0.7
12-Nov	-2	-2	-3	-3	-2	0	3	3	3	3	4	5	6	6	7	6	5	4	4	4	3	3	3	3	2.6	6.6
13-Nov	3	4	3	2	3	2	0	0	0	3	5	8	10	10	9	9	9	8	7	6	6	6	5	4	5.1	9.7
14-Nov	2	1	1	2	3	3	3	3	3	3	6	6	6	6	5	6	6	6	5	5	5	4	4	3	4.1	6.5
15-Nov	2	2	2	2	1	1	2	2	2	2	1	1	1	2	1	0	-1	-2	-3	-3	-4	-4	-6	-7	-0.2	2.3
16-Nov	-9	-9	-10	-10	-10	-10	-10	-10	-10	-11	-11	-10	-10	-10	-10	-10	-11	-11	-11	-12	-12	-12	-12	-12	-10.5	-8.5
17-Nov	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-13	-14	-12.4	-11.5
18-Nov	-14	-15	-15	-15	-16	-16	-16	-16	-16	-17	-16	-16	-15	-15	-14	-15	-15	-18	-20	-22	-23	-24	-24	-25	-17.5	-14.0
19-Nov	-26	-26	-26	-25	-24	-24	-25	-25	-25	-23	-21	-19	-17	-16	-15	-14	-14	-14	-15	-15	-15	-16	-16	-15	-19.6	-13.7
20-Nov	-15	-15	-15	-15	-15	-15	-15	-15	-14	-13	-13	-11	-11	-11	-11	-11	-13	-15	-18	-19	-21	-21	-22	-23	-15.3	-10.6
21-Nov	-23	-22	-21	-20	-19	-18	-17	-18	-19	-19	-18	-18	-17	-16	-15	-15	-16	-16	-16	-16	-17	-17	-18	-19	-17.9	-15.4
22-Nov	-20	-20	-21	-22	-22	-22	-23	-23	-24	-24	-24	-24	-23	-22	-22	-23	-23	-25	-26	-28	-27	-29	-30	-30	-24.0	-19.6
23-Nov	-30	-31	-31	-31	-32	-32	-32	-32	-32	-31	-28	-25	-23	-20	-19	-18	-20	-22	-24	-25	-26	-27	-27	-27	-26.8	-17.5
24-Nov	-28	-28	-28	-28	-28	-27	-26	-24	-22	-21	-18	-15	-12	-10	-10	-9	-10	-11	-10	-10	-9	-9	-8	-2	-16.9	-2.5
25-Nov	0	1	2	2	2	1	1	2	2	2	2	3	3	4	4	3	3	2	1	-1	-1	-1	-2	-2	1.4	3.9
26-Nov	-2	-2	-2	-3	-3	-3	-2	-3	-3	-3	P	P	P	P	0	1	-1	-1	-1	-3	-4	-5	-6	-4	-2.5	0.9
27-Nov	-5	-5	-6	-5	-5	-5	-5	-6	-5	-4	-4	-3	-2	-2	-3	-5	-6	-7	-7	-7	-8	-8	-9	-9	-5.4	-2.2
28-Nov	-10	-10	-9	-9	-9	-9	-10	-10	-10	-9	-8	-7	-6	-5	-5	-5	-6	-8	-8	-8	-9	-10	-10	-9	-8.3	-5.1
29-Nov	-10	-12	-13	-14	-16	-17	-18	-19	-19	-19	-17	-15	-12	-10	-9	-9	-11	-12	-12	-13	-11	-11	-10	-9	-13.2	-9.0
30-Nov	-10	-9	-8	-7	-7	-6	-7	-7	-8	-9	-9	-8	-6	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-6.5	-4.7
	-7.1	-7.3	-7.5	-7.7	-7.8	-7.8	-7.7	-7.8	-7.8	-7.2	-5.9	-4.6	-3.3	-2.5	-2.0	-2.1	-2.8	-4.1	-4.9	-5.5	-6.0	-6.5	-6.9	-7.0	Diurnal Average	
	8.1	7.5	8.5	6.1	5.7	5.6	7.6	7.6	7.4	7.9	8.8	9.8	11.4	11.9	11.9	11.4	10.9	9.6	8.4	7.1	6.3	6.1	5.3	7.5	Diurnal Maximum	

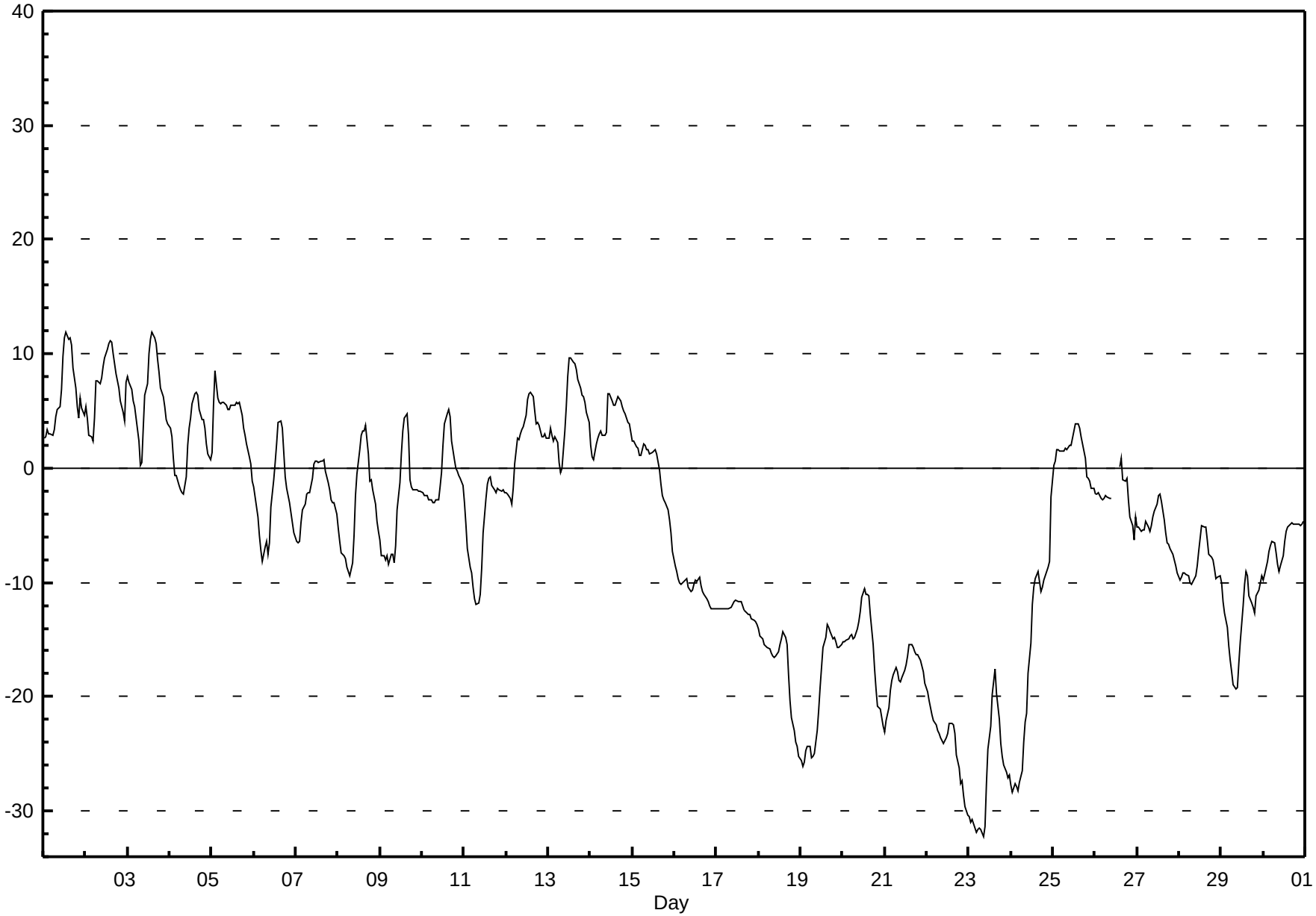
P - Power Failure

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 95.8 % on Nov 15 06:00 Maximum Daily Average: 88.0 % on Nov 28

Minimum Value: 33 % on Nov 2 15:00 Minimum Daily Average: 51.6 % on Nov 5
Maximum Diurnal Average: 77.4 % at hour 5 Minimum Diurnal Average: 63.1 % at hour 14
Monthly Average: 72.47 % Percentiles: P_1 = 36.3 P_{10} = 51.2 Q_1 = 63.9 Median = 76.2 Q_3 = 82.3 P_{90} = 88.3 P_{99} = 93.1

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	58	61	62	65	64	63	58	54	54	55	51	45	43	46	49	49	47	55	65	71	75	67	70	72	58.3	75.0
2-Nov	67	67	69	67	69	60	48	47	49	49	45	43	40	36	33	34	39	45	48	54	58	63	66	47	51.8	68.7
3-Nov	45	47	50	54	57	61	68	75	76	64	53	52	43	38	36	37	37	40	45	50	52	54	58	59	52.2	75.9
4-Nov	59	61	69	76	79	82	83	83	84	78	68	65	64	60	58	59	62	68	70	69	72	78	81	82	71.2	83.6
5-Nov	80	76	71	78	68	68	63	60	56	55	47	40	38	38	36	35	35	34	36	39	41	45	48	53	51.6	80.3
6-Nov	53	55	63	70	76	79	77	78	82	79	68	58	54	49	46	47	52	59	65	69	74	78	80	83	66.4	83.3
7-Nov	85	87	89	92	93	93	93	92	90	82	77	77	79	82	82	82	82	86	89	90	92	92	92	92	87.1	93.1
8-Nov	93	93	92	91	90	90	90	90	90	88	80	74	67	61	61	62	61	70	78	76	78	83	87	89	80.7	93.2
9-Nov	90	91	91	90	90	90	89	89	89	88	80	71	61	52	49	44	52	65	67	68	69	72	73	75	74.8	91.0
10-Nov	79	80	81	82	84	83	84	84	82	82	78	74	63	52	46	44	45	50	54	55	54	55	55	56	66.7	84.1
11-Nov	63	70	78	83	86	88	87	87	86	85	85	79	67	62	64	63	67	69	70	68	71	72	73	73	74.9	87.9
12-Nov	74	74	76	79	76	70	60	59	53	50	48	44	39	38	38	41	46	48	48	48	51	51	50	51	54.7	78.5
13-Nov	53	51	52	54	54	56	63	65	65	64	59	51	46	47	49	51	51	53	55	57	59	61	65	68	56.3	68.2
14-Nov	75	77	77	72	74	74	75	77	79	79	78	84	90	92	94	93	90	89	87	87	80	84	81	86	82.3	94.2
15-Nov	93	93	94	95	95	96	90	84	82	78	81	81	81	79	80	87	78	77	76	73	72	75	75	75	82.9	95.8
16-Nov	74	75	77	77	77	77	79	73	74	73	70	64	64	65	64	64	66	67	70	72	71	72	73	74	71.4	78.7
17-Nov	74	74	75	72	75	76	80	83	81	80	80	84	83	82	84	84	83	82	83	85	84	84	84	84	80.7	84.6
18-Nov	82	81	81	79	78	80	80	78	78	78	77	75	72	67	65	66	69	78	80	80	79	78	78	77	76.4	81.8
19-Nov	76	76	77	77	77	76	76	75	75	74	74	75	77	77	78	78	80	82	83	83	84	83	82	82	78.2	83.6
20-Nov	83	83	83	83	84	84	84	84	85	84	82	79	77	76	77	78	82	85	84	81	80	79	78	78	81.4	85.2
21-Nov	78	80	80	79	80	81	81	81	80	80	79	79	78	78	78	77	78	79	80	80	78	77	76	73	78.7	81.5
22-Nov	73	71	72	72	72	72	72	74	75	75	72	68	65	62	63	63	66	72	75	76	76	75	74	74	71.2	76.0
23-Nov	74	74	74	73	73	72	72	72	72	72	71	68	63	58	58	57	63	68	73	77	77	76	76	76	70.3	77.1
24-Nov	75	74	75	75	74	74	74	75	76	76	73	74	70	69	71	74	77	81	81	82	82	84	85	73	76.1	84.6
25-Nov	60	58	56	58	58	57	58	58	58	57	58	56	55	53	53	55	57	59	64	71	72	74	77	76	60.7	76.8
26-Nov	79	79	78	80	81	80	80	80	81	82	P	P	P	P	84	84	89	83	74	83	86	84	90	78	81.8	89.5
27-Nov	83	84	86	85	84	81	81	84	83	80	81	82	79	79	81	83	85	88	89	90	91	91	91	91	84.7	91.2
28-Nov	90	90	89	89	89	89	89	89	88	88	88	87	84	82	82	83	87	89	90	90	91	91	90	89	88.0	90.8
29-Nov	88	88	87	86	85	83	82	81	81	80	79	79	76	75	74	78	84	86	87	88	86	85	85	84	82.8	88.3
30-Nov	85	86	83	82	81	82	84	86	86	86	83	80	78	76	77	76	77	79	79	79	79	81	83	81	81.2	86.0
	74.8	75.2	76.2	77.2	77.4	77.2	76.7	76.7	76.3	74.7	71.3	68.5	65.4	63.1	63.7	64.3	66.2	69.6	71.5	73.0	73.8	74.8	75.8	75.1	Diurnal Average	
	93.2	93.2	94.2	94.7	95.3	95.8	93.1	91.5	90.3	88.5	88.0	86.6	90.0	92.4	94.2	93.3	90.0	89.2	89.8	90.5	92.0	91.9	91.9	92.2	Diurnal Maximum	

P - Power Failure

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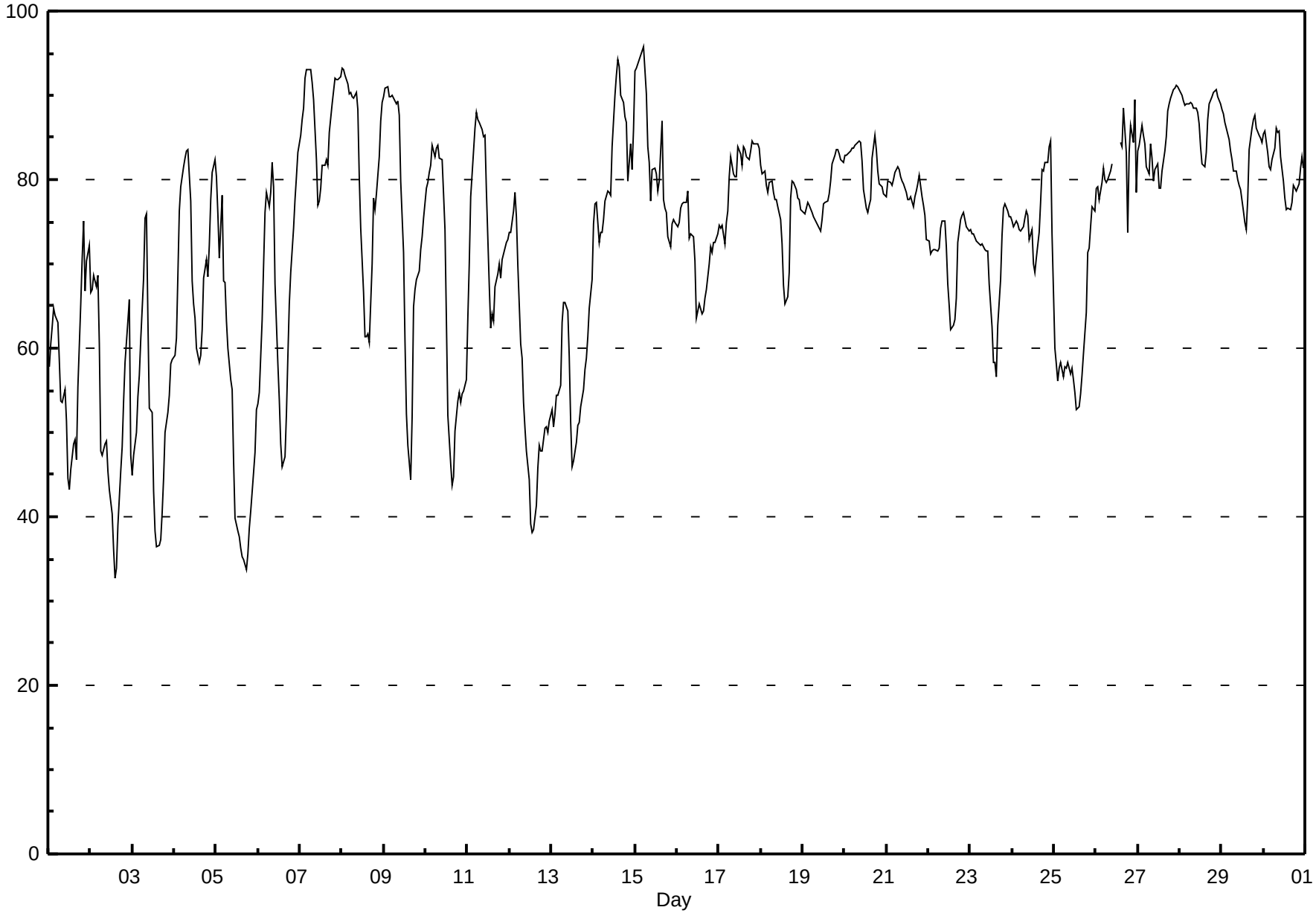
Peace Air Shed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	3	2	3	2	3	4	4	5	2	2	1	5	9	21	20	17	16	11	5	3	4	7	4	2	5.0	20.7
Dir	85	127	176	162	183	180	176	173	175	162	209	210	278	244	236	231	259	281	224	71	210	228	213	191	228.6	243.7
2 Spd	3	5	1	1	2	6	19	17	18	18	30	29	29	28	28	25	22	9	6	10	11	2	4	18	13.8	30.3
Dir	216	204	189	211	97	273	260	259	263	264	260	259	264	265	262	268	273	275	262	264	243	325	280	273	262.8	260.3
3 Spd	21	14	9	4	5	5	0	1	1	2	3	4	5	8	6	5	6	5	5	4	4	2	2	3	0.2	21.2
Dir	272	292	295	335	309	261	186	191	157	211	62	71	124	130	117	105	104	100	85	75	89	66	61	88	43.2	272.0
4 Spd	3	2	1	1	2	2	0	0	1	2	2	2	1	1	0	1	1	0	3	5	1	1	1	2	0.4	4.5
Dir	78	73	9	288	283	213	187	206	113	64	70	43	25	49	61	195	309	337	337	323	232	274	224	262	354.8	322.6
5 Spd	1	7	13	18	23	20	19	18	14	13	14	20	19	23	18	20	14	12	10	7	7	10	8	2	13.4	23.3
Dir	306	305	300	287	260	265	266	266	259	250	274	280	280	262	264	265	259	262	261	262	248	238	254	210	267.1	262.2
6 Spd	1	2	1	0	0	1	2	1	1	1	1	2	1	3	4	2	2	2	2	1	1	1	1	0	0.5	3.5
Dir	257	99	52	186	69	182	191	214	68	8	85	171	198	208	190	156	112	79	77	80	30	351	30	9	138.5	189.5
7 Spd	0	0	1	2	1	4	4	1	3	1	2	2	5	7	7	5	4	3	2	2	1	3	3	1	1.1	6.9
Dir	348	265	11	79	146	68	84	69	72	110	128	232	247	262	271	253	236	213	201	203	160	203	207	200	225.3	261.7
8 Spd	1	1	0	1	1	1	1	1	1	0	3	3	4	3	1	1	2	3	2	2	1	1	0	1	1.3	3.9
Dir	4	214	181	224	1	186	149	221	210	227	227	211	217	213	201	189	209	214	217	223	242	228	200	240	216.0	217.1
9 Spd	1	0	0	0	1	1	1	1	0	2	2	2	4	2	2	1	2	1	1	0	0	0	0	1	0.5	3.9
Dir	204	140	41	3	209	86	269	8	163	178	242	294	295	279	283	347	66	33	187	271	17	272	25	238	279.1	294.8
10 Spd	1	0	1	1	1	2	1	1	1	1	2	1	4	9	12	8	5	3	4	7	8	8	9	4	3.6	12.5
Dir	269	248	292	241	239	291	236	335	257	212	245	294	247	270	260	266	278	274	262	275	299	305	298	312	276.9	259.6
11 Spd	0	1	1	1	2	0	0	1	0	1	1	2	2	2	3	3	2	1	1	2	1	1	1	1	0.5	3.1
Dir	299	245	207	182	219	183	87	47	349	57	63	66	120	110	73	60	61	21	15	284	213	284	146	106	86.2	72.9
12 Spd	1	2	0	2	2	9	11	14	19	18	19	18	22	25	22	15	8	7	10	8	6	8	3	2	9.9	24.6
Dir	265	206	279	262	265	260	269	263	271	268	263	264	276	279	276	273	261	237	252	236	208	218	193	186	262.8	278.9
13 Spd	5	5	2	1	2	1	1	2	1	9	15	19	27	28	27	24	19	15	15	13	16	10	8	0	10.6	28.3
Dir	202	214	209	329	192	163	70	210	258	249	255	263	273	274	273	271	272	270	265	262	266	264	248	293	264.0	273.8
14 Spd	3	1	1	3	2	4	2	2	1	2	10	9	4	3	5	4	8	8	9	7	7	6	3	5	3.2	10.4
Dir	62	169	190	204	199	205	197	192	155	234	284	328	340	260	240	288	323	307	298	302	301	296	329	264	289.0	284.3
15 Spd	5	3	3	0	2	2	6	15	10	5	9	8	8	7	7	7	10	12	9	9	10	11	13	11	4.6	15.0
Dir	236	235	217	182	219	256	344	342	358	325	326	327	324	341	347	59	66	65	71	68	64	63	63	54	23.9	342.2
16 Spd	11	10	7	6	4	3	2	4	6	8	5	5	4	3	5	7	6	5	6	5	8	6	6	5	5.3	10.9
Dir	51	54	65	62	67	64	55	36	40	348	0	26	45	53	70	72	66	69	75	69	69	74	74	74	55.7	51.3
17 Spd	6	6	6	7	7	5	6	8	9	10	9	9	10	9	10	13	12	12	11	10	11	11	10	11	8.9	12.6
Dir	74	68	74	70	80	83	77	77	75	77	84	85	93	87	75	71	75	80	80	75	75	75	75	70	77.4	71.0
18 Spd	12	12	12	11	9	10	9	8	8	6	6	5	5	3	3	4	2	2	0	0	0	0	1	0	4.6	12.0
Dir	68	66	65	64	61	61	60	59	65	58	58	54	41	9	345	306	272	208	155	209	162	42	192	217	57.3	66.2
19 Spd	1	2	2	3	3	4	5	4	5	6	8	9	9	9	6	3	2	0	1	0	1	1	1	0	3.0	8.6
Dir	224	212	216	263	269	271	226	251	242	260	262	263	266	265	279	306	295	302	107	218	89	108	99	243	259.6	265.0
20 Spd	1	1	2	3	3	3	3	3	2	2	2	3	1	3	2	2	1	0	0	1	1	1	1	0	0.6	3.3
Dir	190	189	219	223	218	209	216	225	249	247	231	347	272	43	118	32	49	140	120	52	49	211	27	259	225.5	225.1
21 Spd	1	1	1	0	1	1	1	5	6	7	5	7	7	8	7	7	6	7	5	5	6	8	10	11	2.6	10.7
Dir	27	344	340	219	189	213	231	271	265	261	278	287	274	276	293	328	321	323	327	46	58	52	45	46	325.2	46.3
22 Spd	10	10	11	11	10	9	7	4	3	2	6	6	8	7	8	6	3	3	1	1	2	1	1	1	3.2	11.1
Dir	42	41	39	42	47	48	49	42	42	348	332	337	340	277	285	294	264	213	230	221	215	31	208	235	11.2	39.3

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Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	0	2	1	1	1	0	0	1	1	1	1	3	3	1	2	1	2	1	1	1	1	2	2	2	0.9	2.9
Dir	204	236	190	212	215	161	247	51	208	211	214	235	247	312	352	321	316	275	232	252	218	226	216	211	242.9	234.6
24 Spd	1	1	2	1	1	1	1	1	3	1	1	3	3	4	3	1	1	2	2	1	0	1	1	15	1.8	15.0
Dir	190	226	218	216	211	209	229	200	214	233	212	202	208	209	214	198	200	194	187	190	149	183	124	266	222.2	265.7
25 Spd	27	30	27	28	28	29	24	21	22	22	20	22	26	21	18	14	6	7	2	1	0	1	1	1	16.2	30.1
Dir	272	271	270	270	268	268	267	270	266	264	262	271	273	280	282	287	283	246	255	113	276	101	141	178	270.2	270.8
26 Spd	1	2	2	1	2	3	2	2	1	1	P	P	P	P	5	3	7	10	2	1	1	1	2	5	0.5	9.9
Dir	69	72	75	62	60	70	73	69	41	352	P	P	P	P	334	203	213	226	275	66	164	105	184	210	197.8	226.3
27 Spd	3	1	1	2	2	2	1	1	3	2	2	2	4	4	5	8	6	1	1	1	0	1	1	1	1.0	8.0
Dir	66	76	89	190	209	203	207	215	223	280	353	330	317	314	335	352	354	33	29	209	117	65	125	75	333.6	351.9
28 Spd	1	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	2	1	0	1	1	1	0.2	1.9
Dir	52	68	118	95	44	102	72	135	172	168	100	215	251	245	231	5	74	101	202	51	251	249	232	232	162.5	202.2
29 Spd	2	2	1	2	1	1	0	1	0	1	1	2	1	2	3	3	4	3	2	4	3	3	2	1	1.3	3.5
Dir	332	319	322	319	296	302	2	3	349	65	323	355	3	12	50	78	76	74	61	72	85	69	69	15	38.5	72.0
30 Spd	0	1	2	1	0	0	1	2	2	4	3	4	3	2	2	1	1	2	3	2	2	1	2	1	1.3	3.8
Dir	265	52	54	90	86	12	241	270	264	261	271	267	275	285	307	289	220	239	254	312	284	228	260	293	269.9	266.8
Spd	0.8	0.9	1.0	1.0	1.3	1.7	1.9	2.3	2.2	3.0	4.1	4.5	5.6	6.1	5.3	3.8	2.5	1.7	1.2	0.7	0.4	0.3	0.2	0.5	Diurnal Average	
Dir	312.8	302.8	313.2	302.7	264.4	263.2	265.6	275.8	273.7	268.6	273.9	278.0	277.5	270.1	273.9	279.9	282.4	267.9	267.6	298.5	264.7	285.5	40.9	295.2		
Spd	27.2	30.1	27.2	27.6	28.3	28.8	24.4	20.9	22.0	22.0	30.3	29.4	28.6	28.3	28.0	25.0	22.4	15.4	15.3	13.1	16.2	11.0	13.2	17.8	Diurnal Maximum	
Dir	271.9	270.8	270.4	270.4	267.9	268.3	267.2	269.8	266.1	264.3	260.3	258.9	263.8	273.8	262.4	267.6	272.7	270.5	264.6	262.5	266.1	62.8	62.8	273.3		

Maximum Speed Value: 30 km/h on Nov 2 11:00
Maximum Daily Speed Average: 16.2 km/h on Nov 25
Maximum Diurnal Speed Average: 6.1 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 18 21:00
Minimum Daily Speed Average: 0.2 km/h on Nov 28
Minimum Diurnal Speed Average: 0.2 km/h at hour 23

Monthly Average Velocity: 2.15 km/h 276.55 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.6$ $Q_1 = 1.1$ Median = 2.5 $Q_3 = 6.8$ $P_{90} = 12.8$ $P_{99} = 28.3$

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Percent Operational Time:	99.4

P - Power Failure

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	34	9	1	0	0	0	44
NorthEast	58	28	8	0	0	0	94
East	64	33	4	0	0	0	101
SouthEast	24	2	0	0	0	0	26
South	66	1	0	0	0	0	67
SouthWest	132	15	1	2	0	0	150
West	61	40	31	30	8	0	170
NorthWest	39	24	1	0	0	0	64
Total	478	152	46	32	8	0	716

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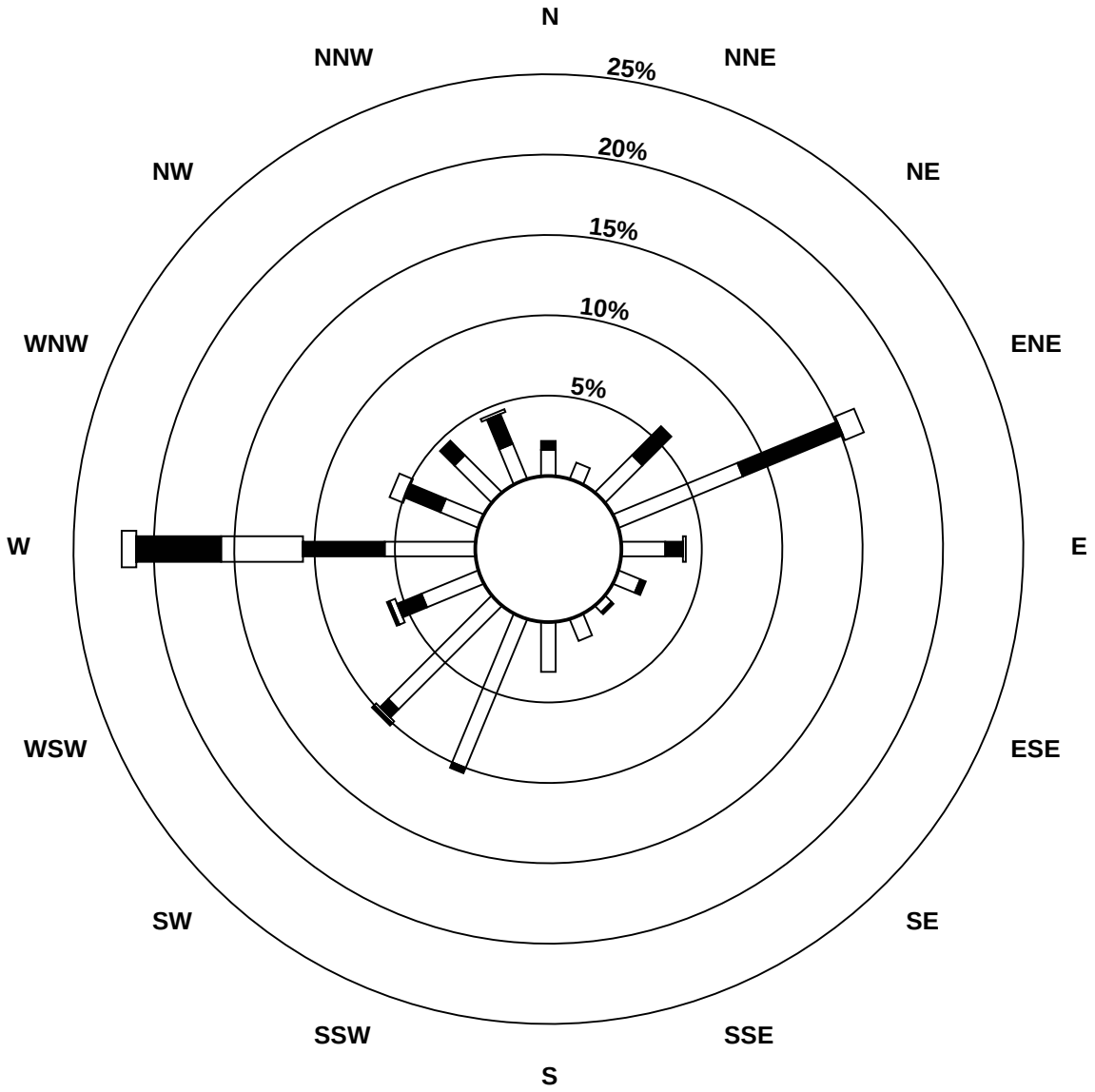
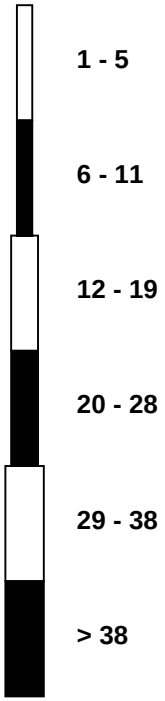
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - November 2010



Wind Speed Classes (km/h)



FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - November 2010

Maximum Speed: 30 km/h on Nov 2 11:00

Maximum Daily Speed Average: 17.0 km/h on Nov 25

Minimum Speed: 1 km/h on Nov 21 04:00

Minimum Daily Speed Average: 1.3 km/h on Nov 28

Maximum Diurnal Speed Average: 8.8 km/h at hour 14

Minimum Diurnal Speed Average: 3.9 km/h at hour 23

Monthly Average Speed: 5.49 km/h

Percentiles: $P_1 = 0.8$ $P_{10} = 1.1$ $Q_1 = 1.7$ Median = 2.9 $Q_3 = 7.1$ $P_{90} = 13.2$ $P_{99} = 28.5$

Hours in Service: 720
Hours of Data: 716
Hours of Missing Data: 4

Percent Operational Time: 99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	4	3	4	4	4	5	4	3	2	5	10	21	20	17	16	12	6	3	5	8	5	3	7.0	21.0
2-Nov	3	5	2	3	4	7	19	18	18	19	30	30	29	28	28	25	23	9	7	10	11	4	4	18	14.7	30.4
3-Nov	21	14	10	4	5	5	2	2	2	2	3	4	5	8	7	5	6	5	5	4	4	3	2	3	5.5	21.3
4-Nov	3	2	1	2	2	2	1	1	2	3	3	2	2	1	2	2	2	1	3	5	3	3	2	2	2.2	4.8
5-Nov	2	8	13	18	23	20	19	19	15	13	14	20	20	23	18	20	14	12	10	8	7	10	8	2	14.0	23.5
6-Nov	2	3	2	1	1	1	3	2	1	3	2	2	2	4	4	2	2	2	2	1	1	1	1	1	1.9	4.1
7-Nov	1	1	1	2	1	4	4	2	3	3	3	2	5	7	7	6	4	3	4	3	2	3	4	3	3.3	7.1
8-Nov	1	2	1	3	2	2	2	2	2	2	3	4	4	3	1	1	2	3	2	2	2	1	1	1	2.1	4.0
9-Nov	1	2	1	1	1	2	2	1	1	2	3	3	4	3	2	2	2	1	2	1	1	1	1	1	1.8	4.0
10-Nov	2	1	3	2	3	2	2	2	1	1	3	1	4	9	13	8	5	3	4	7	8	9	9	4	4.5	12.7
11-Nov	2	1	2	1	2	1	1	1	1	1	1	2	3	2	3	3	2	2	1	3	3	3	4	2	2.0	4.0
12-Nov	2	2	1	2	4	9	11	14	19	18	19	19	22	25	22	15	8	8	10	8	6	8	4	3	10.8	24.9
13-Nov	5	6	2	2	2	2	2	3	3	9	15	20	27	28	27	24	19	16	15	13	16	11	8	2	11.5	28.5
14-Nov	3	2	1	3	2	4	2	2	2	3	11	9	5	4	5	4	9	8	9	7	7	6	4	5	4.8	10.7
15-Nov	5	3	3	1	2	2	6	15	10	5	9	8	8	7	7	7	10	12	9	9	11	11	13	11	7.8	15.1
16-Nov	11	10	7	6	5	3	3	4	6	8	6	5	4	4	6	7	6	5	7	5	8	6	6	5	6.0	11.1
17-Nov	6	6	6	7	7	5	6	8	9	10	9	9	10	9	10	13	12	12	11	10	11	11	10	11	9.2	12.8
18-Nov	12	12	12	11	9	10	9	9	8	6	7	5	5	4	3	5	2	2	1	1	1	1	1	1	5.7	12.2
19-Nov	1	2	3	3	4	4	5	5	5	6	8	9	9	9	6	3	3	2	1	1	2	1	1	1	3.8	8.9
20-Nov	2	1	2	3	3	3	3	3	2	2	2	3	2	3	2	2	1	1	1	1	1	2	1	1	2.0	3.4
21-Nov	1	1	1	1	1	1	2	5	6	7	5	7	7	8	7	8	6	7	5	6	7	8	10	11	5.3	10.9
22-Nov	10	10	11	11	10	9	7	4	3	2	7	7	8	7	8	7	3	3	1	1	2	1	1	2	5.7	11.3
23-Nov	1	2	1	1	2	1	1	1	1	1	1	3	3	2	3	1	2	1	1	1	1	2	2	2	1.6	3.2
24-Nov	1	1	2	2	1	1	1	1	3	2	2	3	3	4	3	2	2	3	2	1	1	1	2	15	2.5	15.2
25-Nov	27	30	27	28	28	29	25	21	22	22	20	22	26	21	18	14	6	8	3	2	2	2	2	2	17.0	30.3
26-Nov	1	2	2	1	2	3	2	2	2	1	P	P	P	P	5	4	7	10	4	1	2	2	2	5	3.1	9.9
27-Nov	3	2	2	2	2	2	2	2	4	2	2	3	4	5	6	8	6	1	1	2	1	1	1	1	2.8	8.1
28-Nov	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1	1	1.3	2.5
29-Nov	2	2	2	2	1	1	1	1	1	1	1	2	2	3	3	3	4	3	2	4	4	3	2	1	2.1	3.6
30-Nov	1	1	2	2	1	1	1	3	3	4	4	4	3	2	2	2	2	2	3	2	3	3	3	2	2.2	3.9
	4.6	4.6	4.3	4.3	4.6	4.8	5.0	5.3	5.3	5.4	6.7	7.4	8.2	8.8	8.4	7.4	6.2	5.3	4.5	4.2	4.4	4.2	3.9	4.1	Diurnal Average	
	27.3	30.3	27.4	27.7	28.5	28.9	24.6	21.0	22.1	22.1	30.4	29.6	28.8	28.5	28.2	25.2	22.7	15.5	15.4	13.2	16.3	11.2	13.4	17.9	Diurnal Maximum	

P - Power Failure
All monthly, daily, and diurnal averages have been calculated using scalar methods

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - November 2010

Maximum Value: 98.1 deg on Nov 23 04:00

Minimum Value: 4.2 deg on Nov 13 11:00

Percentiles: P_1 = 5.3 P_{10} = 8.5 Q_1 = 13.3 Median = 26.9 Q_3 = 60.0 P_{90} = 76.4 P_{99} = 93.2

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	17	40	15	35	23	41	25	17	67	22	65	22	24	10	8	6	11	9	26	33	55	22	54	61	67.0
2-Nov	23	9	73	86	73	66	7	6	6	10	6	7	7	7	7	8	8	15	20	8	11	45	27	6	85.7
3-Nov	6	16	15	30	21	14	81	67	69	26	37	14	27	16	18	15	13	13	12	10	12	21	13	13	80.8
4-Nov	10	26	60	58	72	36	91	95	72	27	21	50	57	56	88	74	50	82	16	24	86	74	58	49	94.7
5-Nov	56	27	14	9	9	6	6	5	9	9	9	8	11	6	10	7	7	9	12	15	18	9	9	61	60.6
6-Nov	68	60	64	92	86	68	57	56	54	70	42	40	53	33	32	38	20	38	18	64	49	44	40	81	91.7
7-Nov	69	84	64	39	81	14	24	63	26	88	56	53	22	14	12	19	20	27	80	69	55	31	25	92	91.9
8-Nov	63	77	85	89	87	72	70	72	81	93	24	30	16	21	65	72	30	25	37	8	69	52	90	80	92.8
9-Nov	39	86	92	84	50	71	76	70	80	43	54	34	17	39	33	45	45	48	76	91	90	83	88	76	91.5
10-Nov	72	94	68	79	79	50	72	76	72	40	23	52	27	17	10	11	9	25	12	17	14	12	10	25	93.6
11-Nov	79	92	64	37	31	69	74	61	90	84	33	27	36	31	22	24	23	40	63	70	60	81	85	51	91.9
12-Nov	62	16	83	41	68	16	7	5	6	6	6	7	8	8	7	8	14	13	10	12	17	8	51	48	83.3
13-Nov	13	24	50	75	28	67	73	65	67	14	4	8	6	6	6	6	6	5	5	5	5	9	6	88	88.0
14-Nov	12	52	78	33	29	6	62	42	70	66	16	22	32	14	11	22	16	12	11	11	12	16	34	18	77.6
15-Nov	12	24	39	82	14	25	19	8	12	17	14	17	15	14	19	17	11	11	15	16	11	9	11	9	81.6
16-Nov	9	12	17	19	18	24	25	21	18	12	26	36	36	33	25	19	13	14	13	17	14	18	13	17	35.9
17-Nov	17	14	15	14	14	16	18	15	13	13	17	15	15	15	13	11	10	11	12	13	13	13	14	12	17.6
18-Nov	11	10	9	8	9	9	9	12	12	13	22	17	24	36	39	24	37	29	85	70	95	92	20	81	95.2
19-Nov	28	10	53	34	22	14	12	14	15	13	8	8	12	9	18	29	45	85	65	87	64	39	57	88	88.0
20-Nov	62	93	14	15	13	18	9	14	10	35	28	27	47	36	59	25	17	79	59	25	48	67	68	79	93.3
21-Nov	48	53	47	96	54	18	24	9	12	13	17	15	13	12	21	20	18	15	15	12	14	14	9	10	96.2
22-Nov	12	9	10	10	12	11	10	10	26	17	16	18	24	14	11	19	23	23	45	63	34	78	72	71	77.6
23-Nov	76	21	65	98	68	85	68	45	57	25	34	40	40	43	30	68	11	37	36	34	57	33	8	16	98.1
24-Nov	62	71	20	32	38	61	37	74	17	59	60	37	17	11	10	70	69	39	39	38	68	63	45	29	73.5
25-Nov	6	5	6	6	6	6	7	6	5	6	7	7	7	7	8	8	21	14	68	71	98	77	87	78	97.8
26-Nov	66	34	40	56	26	26	28	28	41	35	P	P	P	P	24	46	7	5	63	73	74	72	65	10	73.7
27-Nov	28	73	72	52	61	15	92	84	62	28	53	48	29	37	29	10	17	29	43	72	86	44	51	83	91.6
28-Nov	62	32	45	29	55	76	37	75	71	53	66	37	34	51	22	60	34	79	65	56	88	73	58	19	87.6
29-Nov	33	23	28	18	29	43	73	60	66	52	40	22	34	17	20	13	10	12	33	16	49	16	16	53	72.8
30-Nov	86	73	45	58	84	76	38	28	38	14	13	14	20	51	41	49	39	41	15	32	73	69	52	75	85.7
	85.7	93.6	91.5	98.1	87.2	84.5	91.6	94.7	89.7	92.8	65.9	53.2	57.3	56.2	88.5	74.0	69.3	85.2	85.4	90.6	97.8	92.3	90.0	91.9	

P - Power Failure

PASZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.3 ppb on Nov 27 18:00
Maximum Daily Average: 3.2 ppb on Nov 27

Minimum Value: 0 ppb on Nov 15 21:00
Maximum Diurnal Average: 1.0 ppb at hour 18
Monthly Average: 0.62 ppb

Minimum Daily Average: 0.1 ppb on Nov 16
Minimum Diurnal Average: 0.4 ppb at hour 4
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.3 Q_3 = 0.6 P_{90} = 1.4 P_{99} = 5.4

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	0	0	0	D	D	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.2	0.7
3-Nov	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.8
4-Nov	1	1	1	A	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
5-Nov	0	0	A	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.4	2.0
6-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	A	0.3	0.9
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
9-Nov	0	0	0	0	0	A	1	1	1	3	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0.4	2.9
10-Nov	0	0	0	0	A	1	1	1	0	0	0	0	0	0	1	1	1	5	4	7	3	1	1	1	1.2	6.5
11-Nov	1	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
12-Nov	0	0	A	0	0	1	0	0	0	1	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0.3	1.8
13-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	2	4	2	2	0.9	5.6
14-Nov	A	1	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	A	0.4	1.1
15-Nov	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	1.4
16-Nov	0	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0.3	0.7
18-Nov	0	0	1	1	A	1	1	1	1	0	0	0	0	0	1	3	1	0	2	2	1	1	1	0	0.7	2.7
19-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	3	0.8	5.3
20-Nov	2	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7
21-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	3	5	3	1	0	0	0	0	0	0.7	4.6
22-Nov	A	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	A	0.3	1.0
23-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	4	2	1	1	1	0	A	0	0.9	4.2
24-Nov	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	1	1	1	1	A	0	1	0.5	0.7
25-Nov	1	1	1	1	1	1	1	1	2	3	1	1	1	1	1	0	2	1	0	1	A	0	1	1	1.0	2.6
26-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	2	1	0	A	0	0	4	2	0.9	6.4
27-Nov	0	0	0	1	1	1	2	5	1	1	5	4	6	4	3	3	7	12	A	4	3	4	5	4	3.2	12.3
28-Nov	4	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	0	A	1	1	1	1	0	0	1.3	4.5
29-Nov	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	1	1	1	1	1	0.6	0.9
30-Nov	1	2	2	2	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	2	2	3	2	1.2	2.7
	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.6	0.6	0.7	0.6	0.6	0.9	0.9	1.0	0.6	0.7	0.6	0.6	0.9	0.8	Diurnal Average	
	4.5	2.0	1.6	1.9	1.5	2.0	1.7	4.7	1.7	2.9	4.9	3.6	5.5	3.8	3.3	6.4	6.7	12.3	5.6	6.5	2.8	4.1	5.4	3.7	Diurnal Maximum	

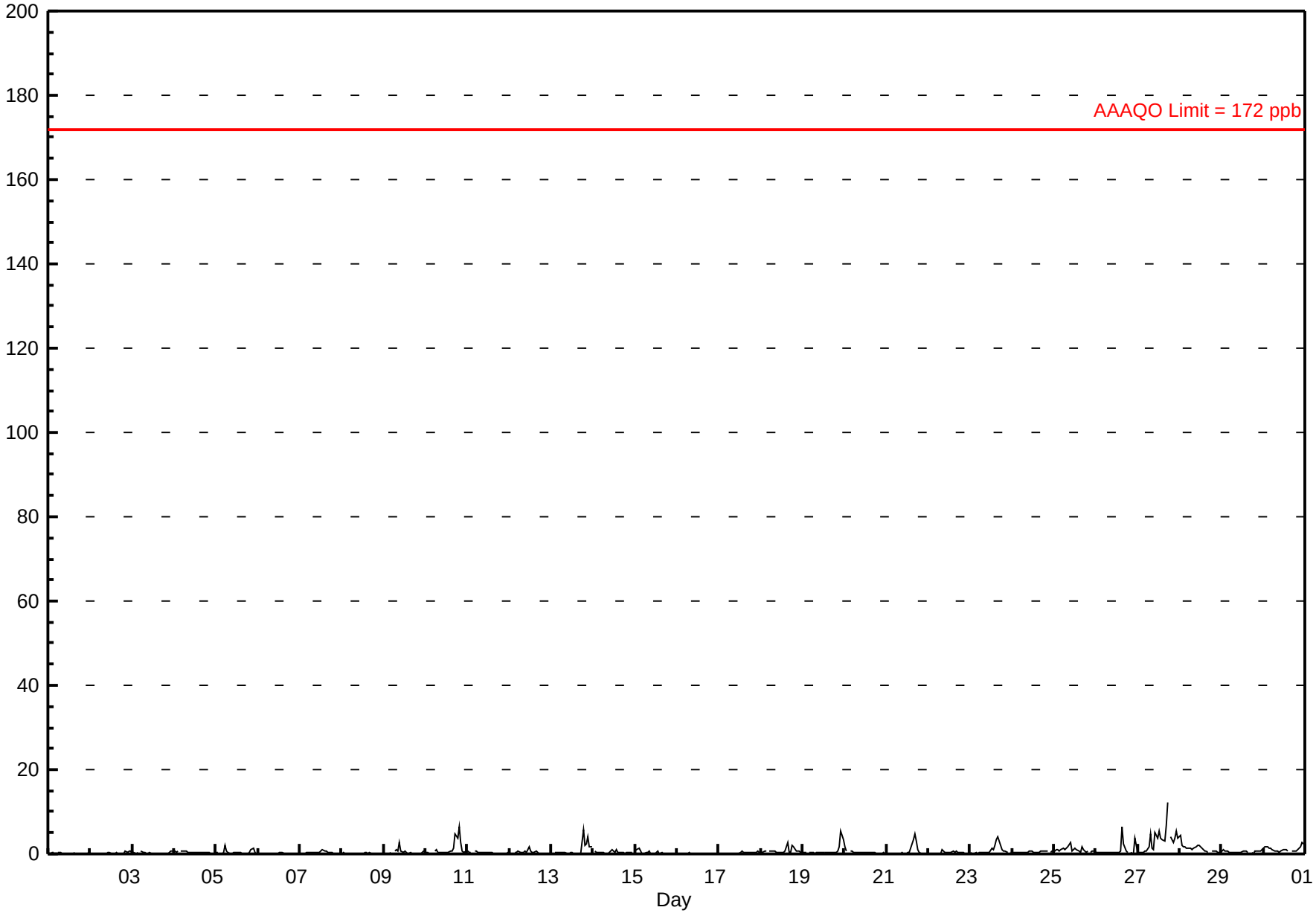
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - November 2010

Maximum Value: 20.9 ppb on Nov 27 17:00

Maximum Daily Average: 7.0 ppb on Nov 27

Minimum Value: 0 ppb on Nov 1 20:00

Minimum Daily Average: 0.5 ppb on Nov 6

Maximum Diurnal Average: 2.4 ppb at hour 17

Minimum Diurnal Average: 0.8 ppb at hour 4

Monthly Average: 1.35 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.7 $Q_3 = 1.1$ $P_{90} = 2.6$ $P_{99} = 9.9$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	0	1	1	A	1	1	1	0	0	0	0	D	D	1	0	0	0	0	0	0	1	0	1	0.5	0.7
2-Nov	1	0	0	1	0	A	0	1	0	0	1	1	0	0	0	1	1	0	0	0	2	1	2	2	0.7	2.2
3-Nov	1	1	1	1	A	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0.7	1.3
4-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
5-Nov	1	1	A	0	2	4	2	2	0	1	2	1	1	1	1	0	0	0	0	1	4	3	1	1	1.3	4.3
6-Nov	0	A	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.5	0.7
7-Nov	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	A	0.7	1.3
8-Nov	0	1	1	0	0	0	0	0	0	1	0	0	1	1	1	0	1	1	0	0	0	0	1	0	0.5	0.6
9-Nov	0	0	1	0	1	A	1	4	2	6	2	1	1	1	0	1	0	1	0	0	1	0	1	2	1.1	6.1
10-Nov	1	1	0	0	A	2	2	1	1	0	1	1	1	1	1	1	8	17	8	9	5	1	1	1	2.8	16.7
11-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	1	1	0.7	1.3
12-Nov	1	1	A	1	1	2	1	1	1	1	2	3	1	0	1	2	2	0	0	0	0	0	1	1	1.0	3.3
13-Nov	0	A	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	0	9	8	4	9	5	6	2.2	8.9
14-Nov	A	2	1	0	1	1	1	0	0	1	1	2	2	2	1	1	1	1	0	1	1	1	1	A	0.9	2.2
15-Nov	1	3	4	2	1	0	1	1	3	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1.0	4.0
16-Nov	0	0	0	0	0	A	1	1	0	C	C	C	0	0	0	0	0	0	1	0	0	0	0	0	0.5	1.5
17-Nov	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2
18-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	4	4	3	1	4	3	1	1	1	1	1.4	3.8
19-Nov	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	4	8	4	1.3	7.8
20-Nov	3	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	0	1	0	0.7	2.8
21-Nov	0	A	0	0	0	0	0	0	0	1	0	0	1	1	4	5	7	7	2	1	0	0	0	0	1.5	7.2
22-Nov	A	0	0	0	0	0	0	0	2	1	1	1	2	2	1	1	1	1	1	1	1	0	0	A	0.8	2.3
23-Nov	0	0	0	0	1	0	1	1	1	1	1	1	2	2	3	4	6	4	2	1	1	1	A	1	1.4	6.2
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.4
25-Nov	1	2	3	1	3	3	3	3	3	5	1	2	3	3	1	1	6	2	1	3	A	1	1	1	2.3	6.1
26-Nov	1	1	1	1	1	1	1	0	1	1	1	1	1	1	2	15	4	1	1	A	0	0	10	8	2.2	14.9
27-Nov	1	1	1	1	1	1	8	10	5	2	9	7	12	9	9	7	21	20	A	6	9	9	9	5	7.0	20.9
28-Nov	9	5	2	2	2	2	2	1	2	2	2	2	2	2	1	1	1	A	1	1	1	1	1	1	2.0	9.0
29-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	0.9	1.6
30-Nov	2	2	2	2	2	1	1	1	1	1	1	1	2	1	1	A	1	1	1	1	2	3	3	4	1.6	3.9
	1.1	1.0	1.0	0.8	0.9	1.1	1.1	1.3	1.0	1.1	1.1	1.2	1.4	1.3	1.3	1.8	2.4	2.2	1.3	1.5	1.4	1.5	1.8	1.6	Diurnal Average	
	9.0	4.7	4.0	2.4	2.7	4.3	8.0	10.4	4.6	6.1	9.0	7.2	11.5	8.9	8.6	14.9	20.9	20.4	8.9	8.7	9.0	9.5	10.0	7.7	Diurnal Maximum	

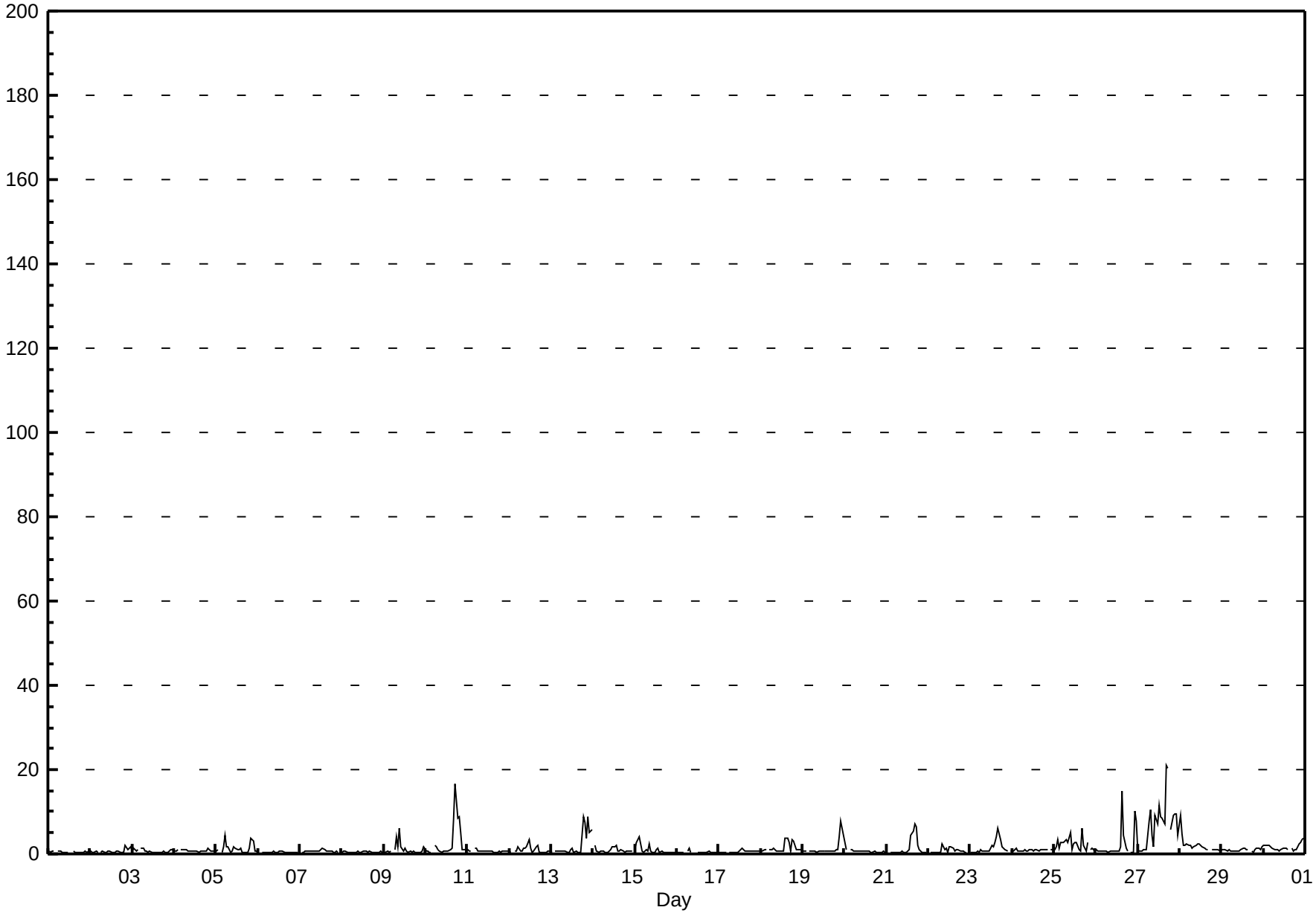
C - Calibration D - DAS Failure A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - November 2010



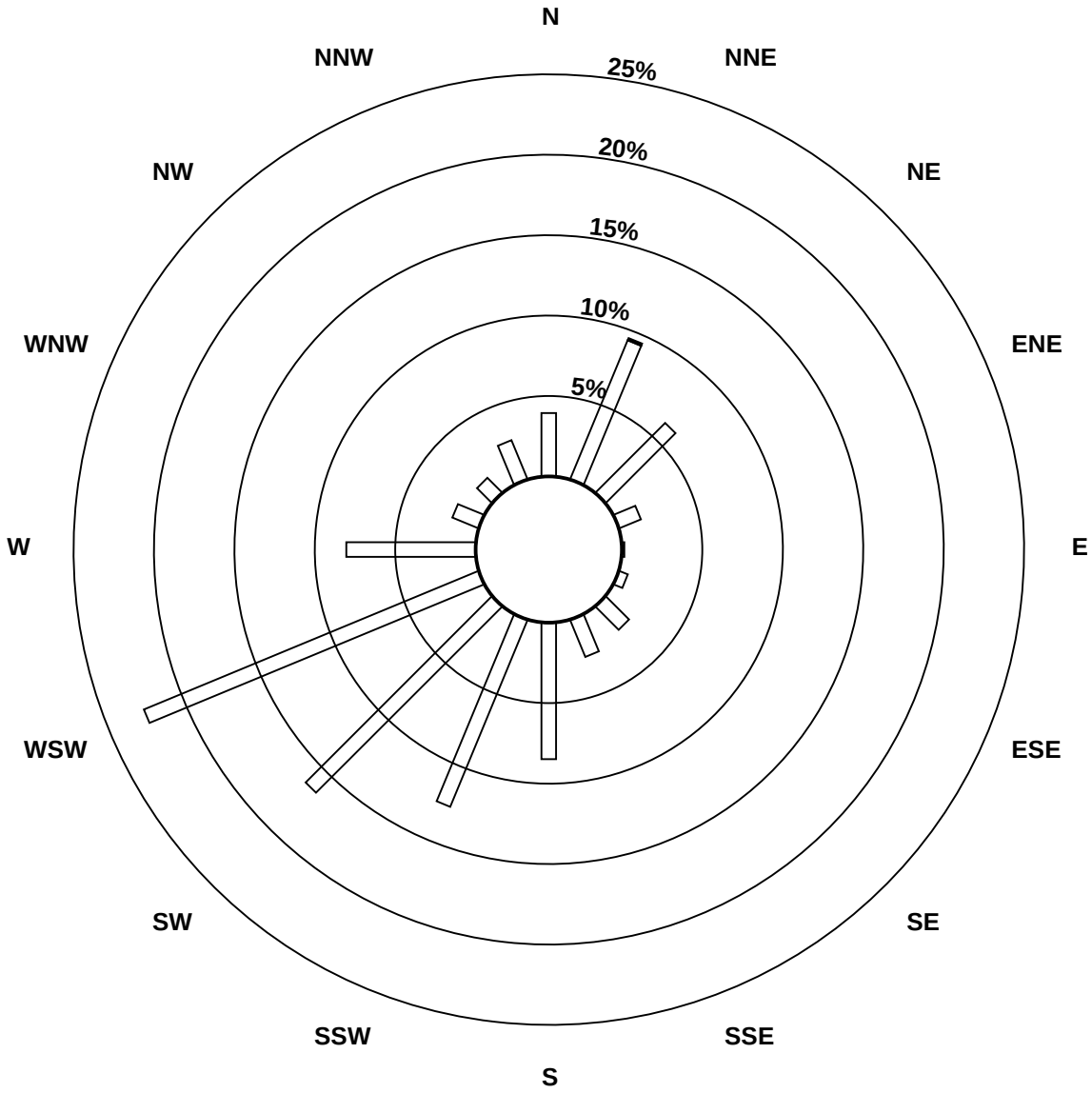
FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - November 2010



Pollutant Classes (ppb)

- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

FOCUS AIR QUALITY MONITORING

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Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.7 ppb on Nov 27 23:00 Maximum Daily Average: 0.5 ppb on Nov 27

Minimum Value: 0 ppb on Nov 16 05:00 Minimum Daily Average: 0.2 ppb on Nov 16
Maximum Diurnal Average: 0.4 ppb at hour 22 Minimum Diurnal Average: 0.3 ppb at hour 7
Monthly Average: 0.34 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.5$ $P_{99} = 0.6$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	0	0	0	D	D	0	0	0	0	0	0	0	0	0	0	0.4	0.5
2-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
3-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
4-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
5-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
6-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.4
8-Nov	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
9-Nov	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	0.6
10-Nov	0	0	0	0	A	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	1	0	0	0.4	0.5
11-Nov	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
12-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
13-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
14-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.5
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
16-Nov	0	0	0	0	0	A	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.2	0.3
17-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
18-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
19-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
20-Nov	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0.4	0.5
21-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
22-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.3	0.5
23-Nov	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.5	0.6
24-Nov	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.6
25-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4
26-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4
27-Nov	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	A	1	1	1	1	1	0.5	0.7
28-Nov	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0.4	0.6
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.4
30-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	1	1	1	1	0.4	0.6
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	Diurnal Average	
	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.7	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.6	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

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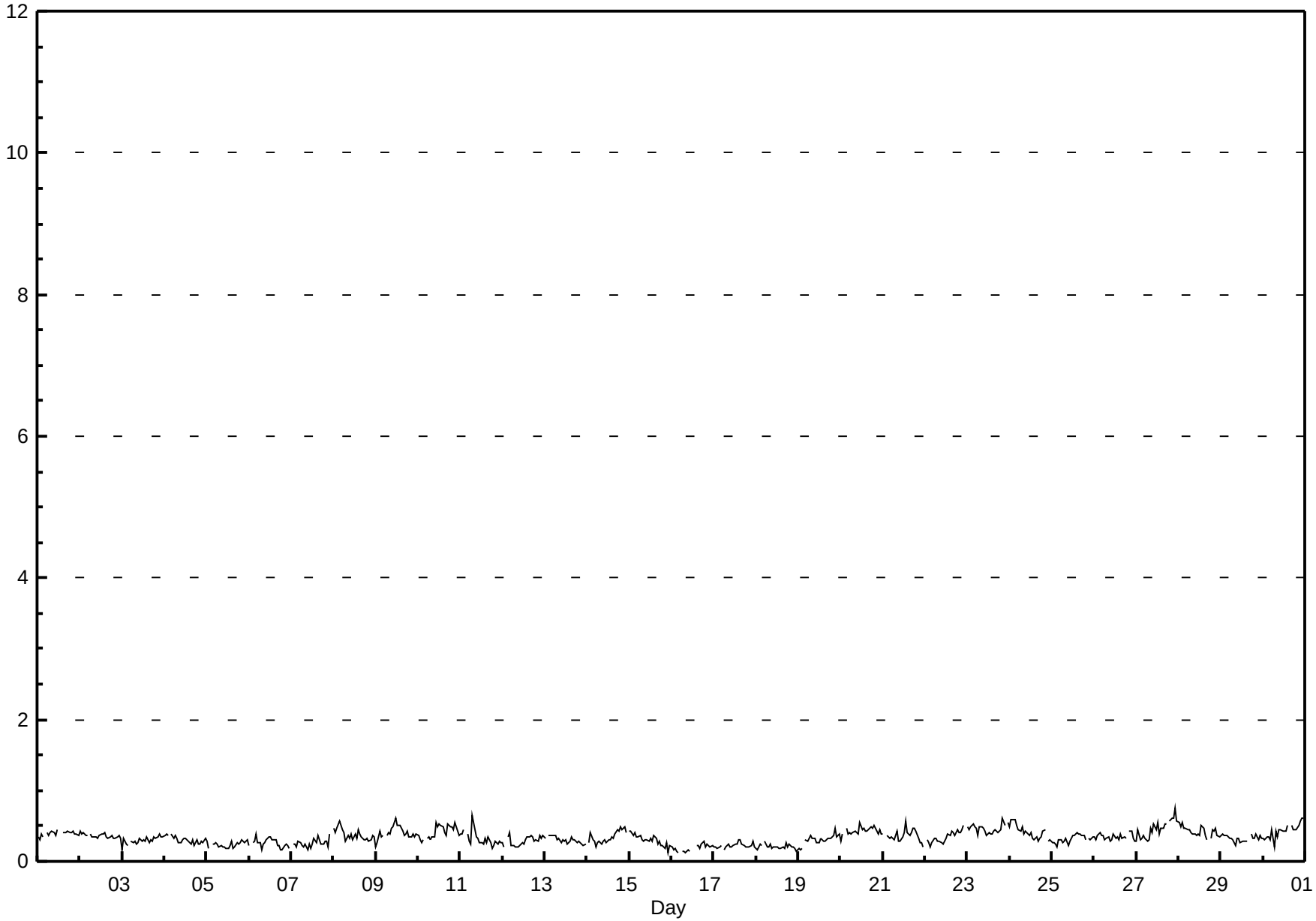
Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2010

Maximum Value: 1.7 ppb on Nov 11 08:00

Maximum Daily Average: 0.9 ppb on Nov 27

Minimum Value: 0 ppb on Nov 16 07:00

Minimum Daily Average: 0.6 ppb on Nov 16

Maximum Diurnal Average: 0.8 ppb at hour 22

Minimum Diurnal Average: 0.7 ppb at hour 2

Monthly Average: 0.76 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 0.9$ $P_{99} = 1.1$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	A	1	1	1	1	1	1	1	D	D	1	1	1	1	1	1	1	1	1	1	0.8	0.9
2-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
3-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
4-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
5-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
6-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	0.9
7-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.0
8-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
9-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
10-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
11-Nov	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
12-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
13-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
14-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.0
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	0.9
16-Nov	1	1	1	1	1	A	0	1	0	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	0.6	0.8
17-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
18-Nov	0	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
19-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
20-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
21-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
22-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	0.9
23-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.2
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.9	1.1
25-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0
26-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9
27-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	0.9	1.6
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	1.1
29-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
30-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.2
	0.7	0.7	0.8	0.7	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.7	Diurnal Average	
	1.1	1.0	1.1	1.0	1.0	0.9	0.9	1.7	1.1	1.0	1.1	1.1	1.1	1.0	1.2	1.0	1.1	1.0	1.0	1.0	1.2	1.1	1.6	0.9	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

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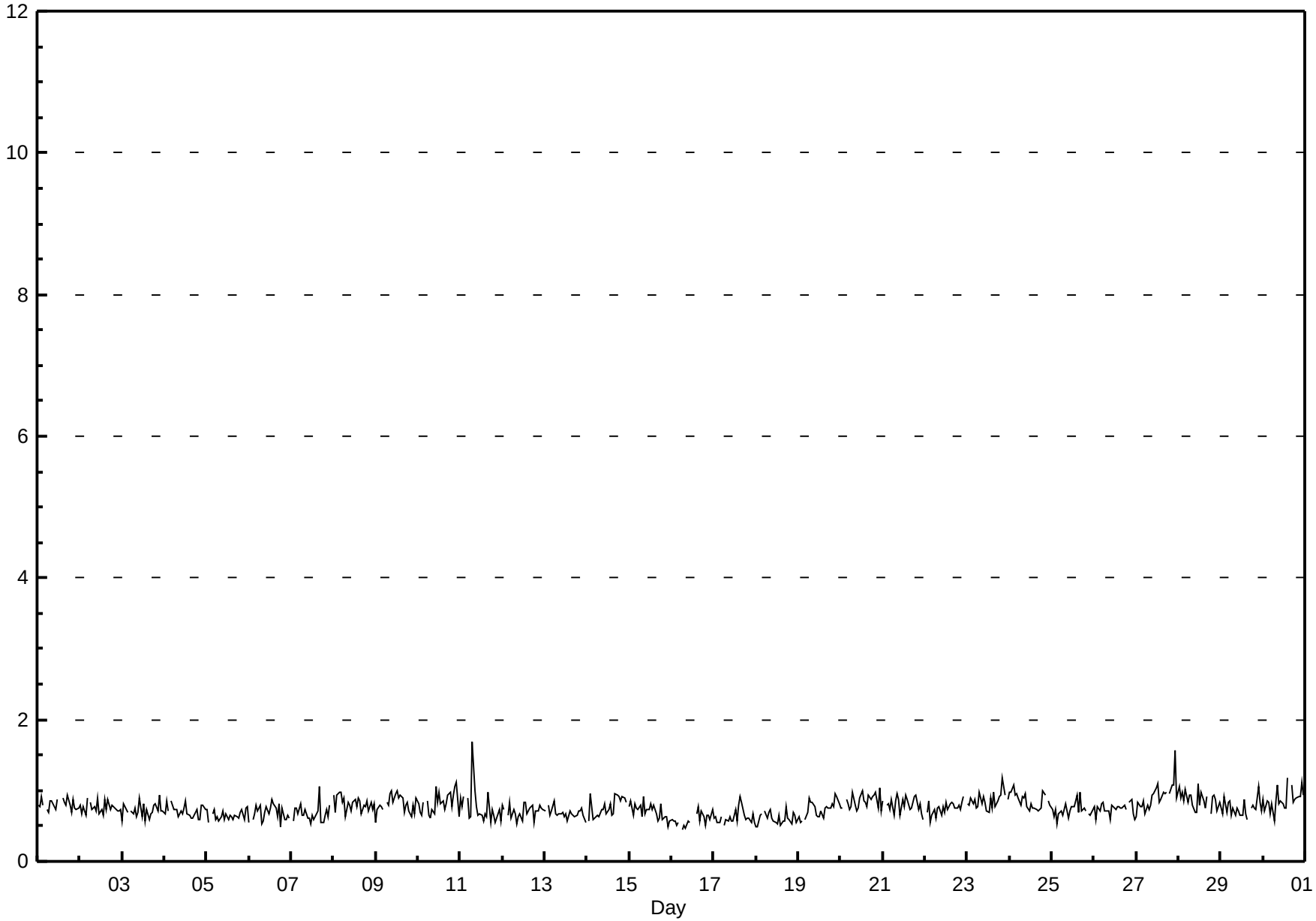
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2010



FOCUS AIR QUALITY MONITORING

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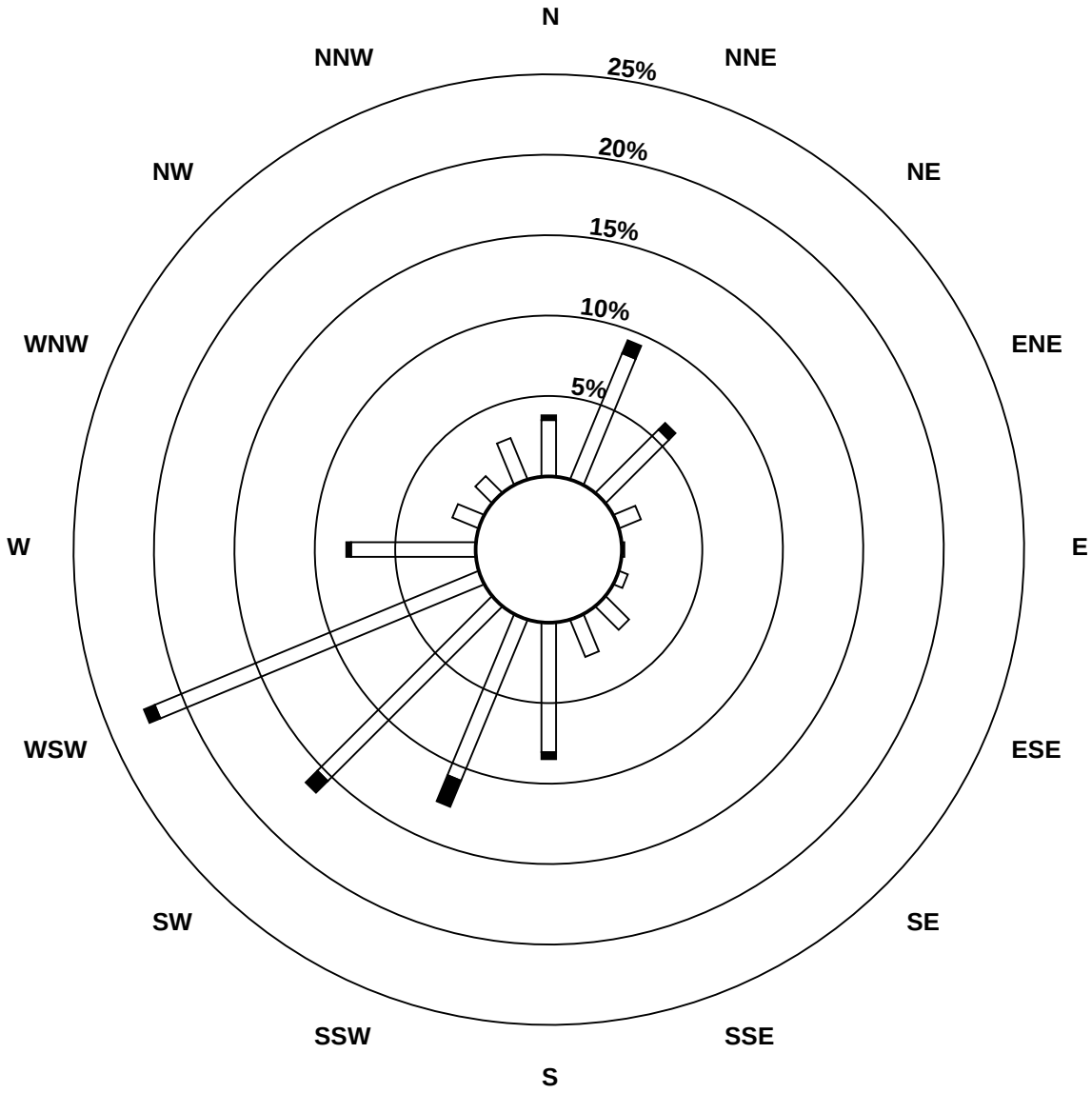
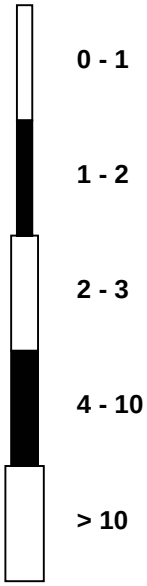
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Smoky Heights - November 2010

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 43.4 $\mu g/m^3$ on Nov 29 21:00
Maximum Daily Average: 13.1 $\mu g/m^3$ on Nov 20

Minimum Value: 0 $\mu g/m^3$ on Nov 1 01:00
Maximum Diurnal Average: 7.0 $\mu g/m^3$ at hour 21
Monthly Average: 4.69 $\mu g/m^3$

Minimum Daily Average: 0.5 $\mu g/m^3$ on Nov 14
Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 6
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 1.0$ Median = 3.2 $Q_3 = 6.9$ $P_{90} = 10.5$ $P_{99} = 25.4$

Hours in Service:	720
Hours of Data:	691
Hours of Missing Data:	29
Hours of Calibration:	3
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	1	0	0	0	0	0	1	1	3	3	D	D	9	4	3	2	2	0	1	3	1	1	1.6	8.6
2-Nov	1	1	1	0	0	1	0	0	1	0	1	0	0	0	0	1	1	0	1	3	2	3	5	5	1.1	5.3
3-Nov	4	1	2	2	1	1	1	1	2	2	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0.9	3.7
4-Nov	0	0	0	0	0	0	0	2	1	2	0	1	1	1	5	5	14	2	6	3	1	3	3	4	2.3	13.8
5-Nov	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0	1	0.8	6.1
6-Nov	3	3	3	2	2	5	2	1	1	1	2	4	3	3	1	2	4	13	9	2	2	3	20	1	3.9	20.4
7-Nov	3	2	2	1	2	2	0	0	1	2	4	2	3	3	5	4	5	4	5	7	8	8	7	6	3.7	8.0
8-Nov	4	10	9	7	6	5	5	6	7	5	6	C	5	4	3	0	4	8	11	7	4	4	4	3	5.6	11.3
9-Nov	3	3	2	1	3	3	2	2	2	4	5	4	2	2	3	6	7	10	12	7	13	10	10	9	5.2	13.1
10-Nov	5	5	4	4	5	5	5	7	7	6	7	8	7	8	7	1	3	12	8	9	8	6	12	4	6.4	11.8
11-Nov	2	2	2	3	2	2	4	11	21	8	8	4	5	5	6	8	27	19	26	10	7	8	9	8	8.6	26.8
12-Nov	8	9	9	11	11	8	7	5	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3.3	11.0
13-Nov	1	1	1	3	1	0	2	1	1	0	0	0	0	1	1	9	2	1	0	0	1	0	0	0	1.1	9.2
14-Nov	0	0	0	0	0	0	0	0	0	2	2	1	0	0	1	0	1	0	1	0	0	0	0	1	0.5	1.9
15-Nov	0	0	0	0	0	0	1	0	0	0	0	0	C	C	N	N	N	N	N	N	N	N	N	N	--	1.4
16-Nov	N	N	N	N	N	N	N	N	N	N	M	M	M	M	12	9	10	10	8	6	4	5	5	4	--	11.6
17-Nov	4	5	4	4	4	3	2	3	2	1	1	2	2	4	4	2	4	3	3	3	2	3	2	2	2.8	4.5
18-Nov	1	1	2	2	1	2	2	2	2	3	3	5	19	3	4	1	1	3	2	3	2	4	4	6	3.3	19.0
19-Nov	3	2	4	4	3	3	5	8	8	4	5	7	9	9	8	6	7	10	7	14	8	8	8	8	6.7	13.6
20-Nov	9	17	6	5	7	8	10	14	14	14	15	16	13	12	13	11	10	16	21	27	27	9	9	10	13.1	27.3
21-Nov	14	9	16	20	15	11	14	16	13	13	11	11	9	9	10	7	5	5	14	10	8	4	3	2	10.3	19.7
22-Nov	6	4	11	7	2	5	20	18	17	6	5	3	2	3	1	0	0	1	2	0	2	2	2	2	4.9	20.3
23-Nov	0	4	11	10	9	6	8	11	8	12	9	2	9	6	9	9	9	10	10	10	6	5	6	7	7.7	12.1
24-Nov	8	11	14	10	7	6	6	7	5	5	8	6	4	4	4	4	4	4	5	10	9	12	17	11	7.5	17.2
25-Nov	8	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	2	3	4	0.9	8.2
26-Nov	3	2	13	16	14	8	7	5	1	1	2	2	7	6	6	3	2	1	0	10	2	4	0	1	4.8	16.3
27-Nov	0	1	1	2	1	0	2	9	12	2	6	8	11	11	9	5	4	4	3	3	23	38	0	1	6.5	38.3
28-Nov	2	2	4	3	3	3	3	4	4	4	4	4	5	7	4	7	5	7	7	7	8	8	8	10	5.0	10.3
29-Nov	12	9	8	6	5	5	3	2	2	5	5	2	4	4	3	2	6	34	5	7	43	22	10	2	8.7	43.4
30-Nov	1	2	2	1	1	3	3	7	20	12	8	2	3	4	4	5	5	4	5	7	9	5	6	6	5.2	20.1
	3.9	3.8	4.5	4.2	3.7	3.4	4.0	4.8	5.4	4.2	4.3	3.6	4.6	4.1	4.5	3.9	5.0	6.3	6.0	5.7	7.0	6.2	5.4	4.1	Diurnal Average	
	14.4	16.5	15.8	19.7	14.9	10.9	20.3	17.8	20.8	14.1	15.2	15.9	19.0	11.8	12.9	11.4	26.8	34.4	25.8	27.3	43.4	38.3	20.4	10.9	Diurnal Maximum	

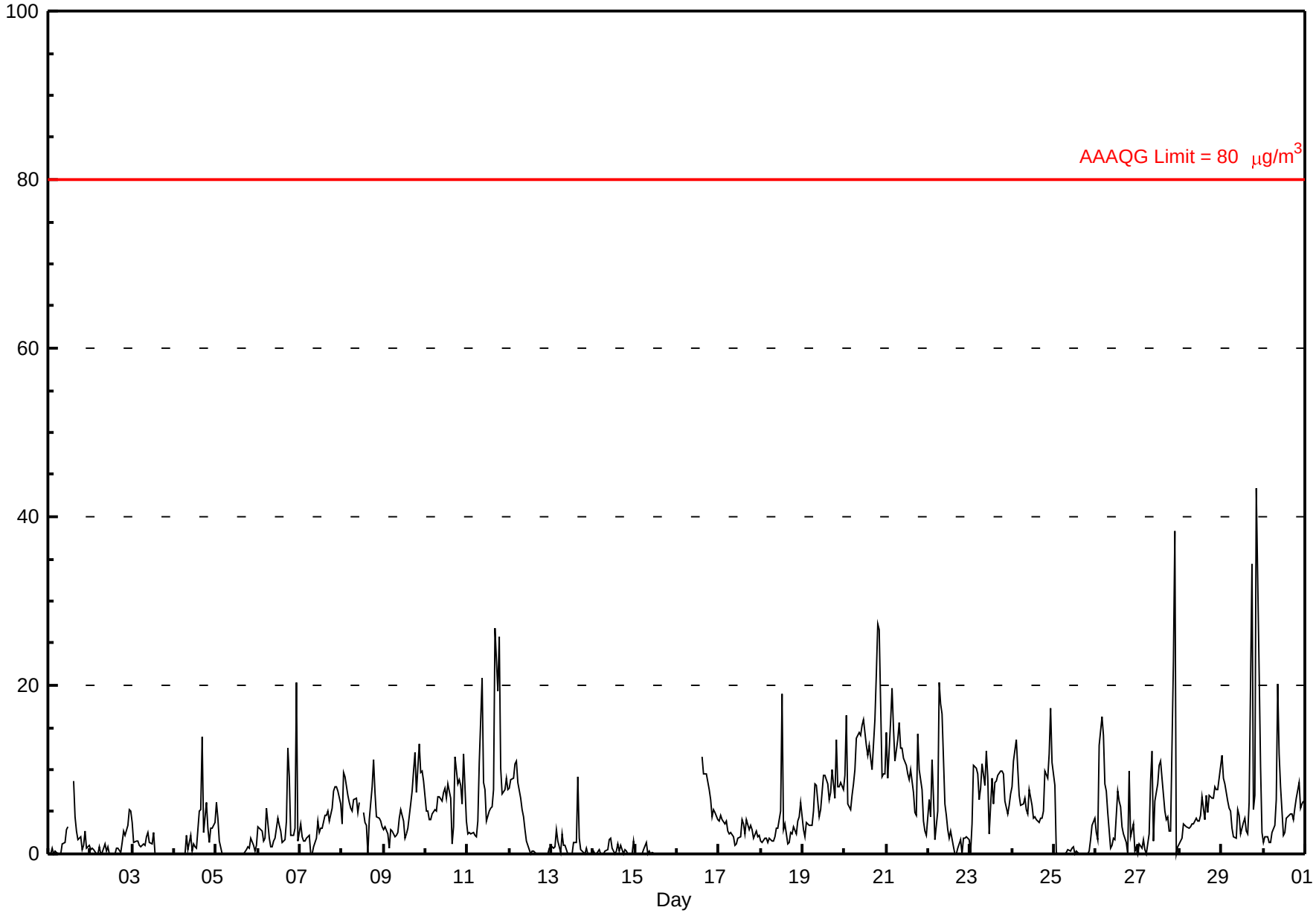
C - Calibration D - DAS Failure M - Maintenance N - Not Valid
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

PASZA
Peace Air Shed Zone Association

Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Smoky Heights - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Smoky Heights - November 2010

Maximum Value: 152.3 $\mu g/m^3$ on Nov 29 22:00

Maximum Daily Average: 28.0 $\mu g/m^3$ on Nov 29

Minimum Value: 0 $\mu g/m^3$ on Nov 3 16:00

Minimum Daily Average: 2.4 $\mu g/m^3$ on Nov 14

Maximum Diurnal Average: 16.3 $\mu g/m^3$ at hour 22

Minimum Diurnal Average: 6.0 $\mu g/m^3$ at hour 12

Monthly Average: 9.01 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 1.6$ $Q_1 = 3.2$ Median = 6.1 $Q_3 = 10.7$ $P_{90} = 16.8$ $P_{99} = 54.4$

Hours in Service:	720
Hours of Data:	691
Hours of Missing Data:	29
Hours of Calibration:	3
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	1	3	3	2	3	1	2	2	6	6	6	6	D	D	13	7	5	4	4	2	4	6	2	3	4.1	13.2
2-Nov	2	3	2	2	1	2	1	3	3	1	2	1	2	2	1	3	3	2	3	4	4	6	7	7	2.8	6.9
3-Nov	6	3	4	4	4	3	4	3	4	5	3	3	6	1	0	0	0	1	2	1	0	0	1	0	2.4	5.9
4-Nov	0	0	0	1	1	1	2	4	3	4	2	4	3	3	18	10	42	8	15	7	6	6	5	7	6.4	41.9
5-Nov	14	12	6	2	0	0	0	1	2	2	2	1	1	1	0	1	2	2	2	3	5	6	2	2	3.0	13.5
6-Nov	6	5	4	3	3	21	4	4	3	4	5	5	5	4	3	6	9	27	20	4	5	8	52	36	10.2	51.9
7-Nov	16	9	4	2	4	4	2	3	3	4	9	4	6	5	7	7	7	5	8	14	10	10	9	7	6.6	16.2
8-Nov	5	15	11	10	9	7	8	17	14	8	14	C	10	5	4	4	5	12	17	12	8	8	6	5	9.4	16.9
9-Nov	4	5	4	5	6	6	7	7	5	8	11	8	3	3	5	7	10	22	21	11	27	22	16	16	10.0	26.6
10-Nov	11	8	6	7	7	7	7	11	9	9	10	10	8	10	9	3	6	17	11	13	11	9	22	6	9.4	21.6
11-Nov	4	4	4	4	4	4	9	23	43	12	9	5	6	7	8	11	43	33	42	20	11	19	19	9	14.8	43.0
12-Nov	10	11	11	13	13	11	8	8	7	4	3	3	1	2	3	2	1	1	1	1	1	2	1	3	5.1	13.5
13-Nov	3	2	2	6	3	3	4	3	4	3	1	1	1	6	9	17	3	2	1	1	2	1	1	1	3.4	17.4
14-Nov	2	1	2	3	2	2	2	2	3	3	3	2	2	1	5	4	3	1	3	3	1	1	3	3	2.4	4.5
15-Nov	1	1	1	1	0	2	6	2	5	2	3	2	C	C	N	N	N	N	N	N	N	N	N	N	--	5.6
16-Nov	N	N	N	N	N	N	N	N	N	N	M	M	M	M	15	13	12	12	9	10	6	7	7	6	--	14.6
17-Nov	7	7	6	6	6	5	5	5	4	3	4	4	5	6	6	4	6	6	6	5	4	5	5	4	5.2	7.1
18-Nov	3	4	4	5	4	4	4	3	4	5	5	9	55	14	7	4	6	10	6	8	8	12	8	9	8.3	54.8
19-Nov	8	5	7	7	6	5	9	10	11	7	8	10	12	12	10	9	10	13	9	35	17	10	11	10	10.4	34.9
20-Nov	12	25	10	7	9	12	14	16	16	17	18	19	17	15	17	14	12	23	32	47	37	14	14	18	18.1	47.2
21-Nov	26	13	20	25	25	14	17	19	15	15	13	12	12	11	16	15	7	7	29	27	17	6	6	5	15.6	28.5
22-Nov	16	14	19	15	4	9	29	24	41	8	12	5	5	5	3	1	4	3	6	3	6	6	5	5	10.3	41.1
23-Nov	3	9	15	13	13	8	10	14	13	14	14	6	12	10	12	11	12	12	15	14	9	7	8	11	11.1	15.4
24-Nov	12	15	16	14	10	9	9	9	8	7	10	8	7	7	7	7	6	7	9	13	11	15	23	14	10.5	23.4
25-Nov	11	11	0	1	1	1	2	2	4	2	2	3	2	2	1	1	2	1	2	2	3	5	25	25	4.6	24.8
26-Nov	6	6	23	22	20	14	13	9	3	2	3	5	12	11	7	6	4	5	4	31	9	7	3	3	9.6	31.4
27-Nov	4	2	3	3	3	1	5	39	39	3	11	19	22	16	14	7	7	6	4	4	54	104	0	2	15.5	104.2
28-Nov	3	4	5	6	5	6	5	5	7	7	5	6	7	9	8	10	8	11	10	8	11	10	11	14	7.5	14.1
29-Nov	16	12	11	8	9	8	5	5	6	9	9	5	7	7	6	5	43	145	10	15	139	152	35	5	28.0	152.3
30-Nov	6	5	4	5	5	6	5	18	58	26	16	4	5	7	6	6	7	6	8	9	10	8	7	9	10.2	57.9
	7.6	7.4	7.2	7.0	6.3	6.1	6.8	9.3	11.9	6.8	7.4	6.0	8.7	6.7	7.6	6.8	9.8	14.0	10.7	11.2	15.0	16.3	10.9	8.5	Diurnal Average	
	26.2	25.3	23.4	25.4	25.3	21.0	29.4	38.7	57.9	25.6	17.6	19.1	54.8	16.4	18.2	17.4	43.0	144.6	42.0	47.2	139.4	152.3	51.9	36.4	Diurnal Maximum	

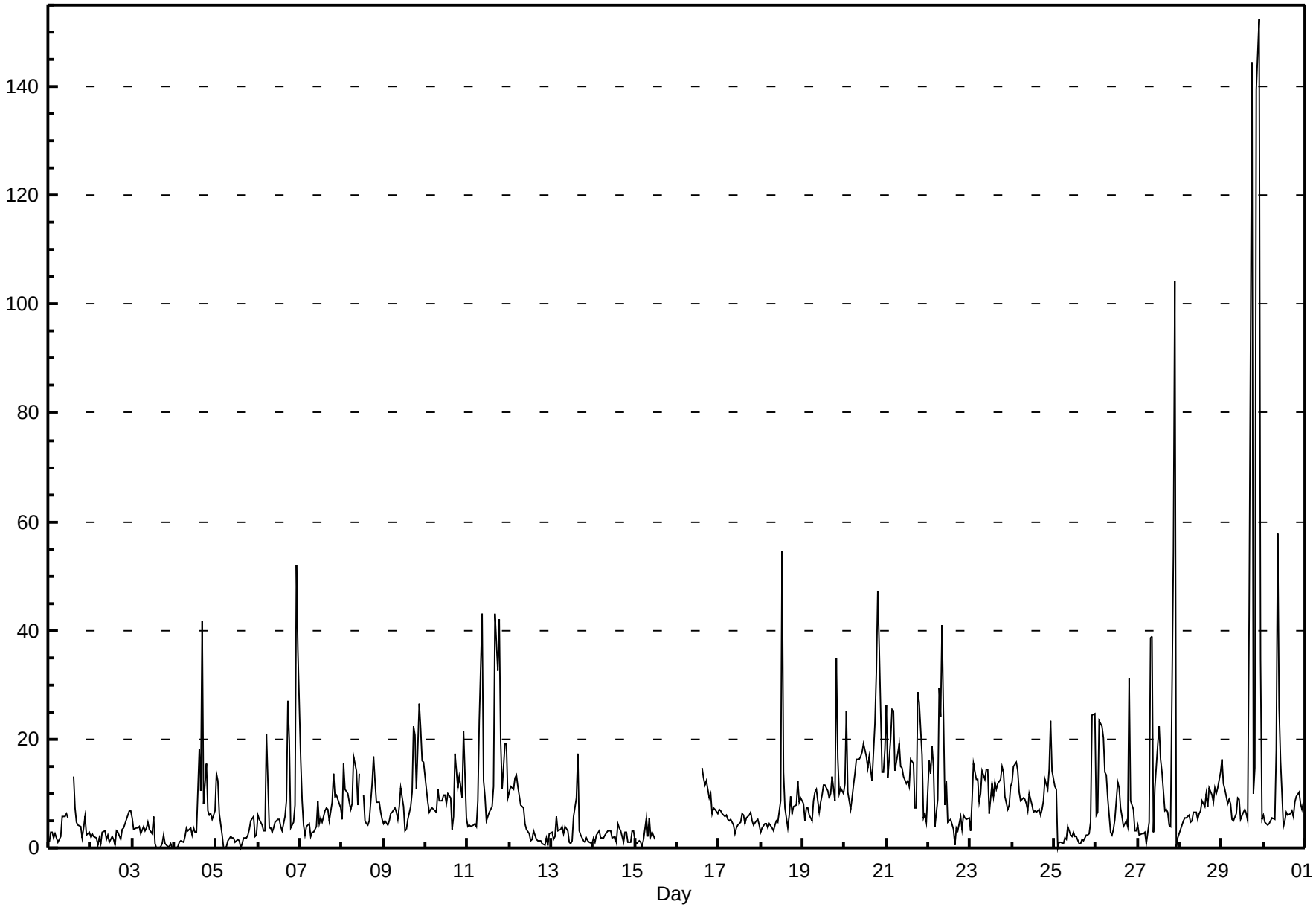
C - Calibration D - DAS Failure M - Maintenance N - Not Valid

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Smoky Heights - November 2010

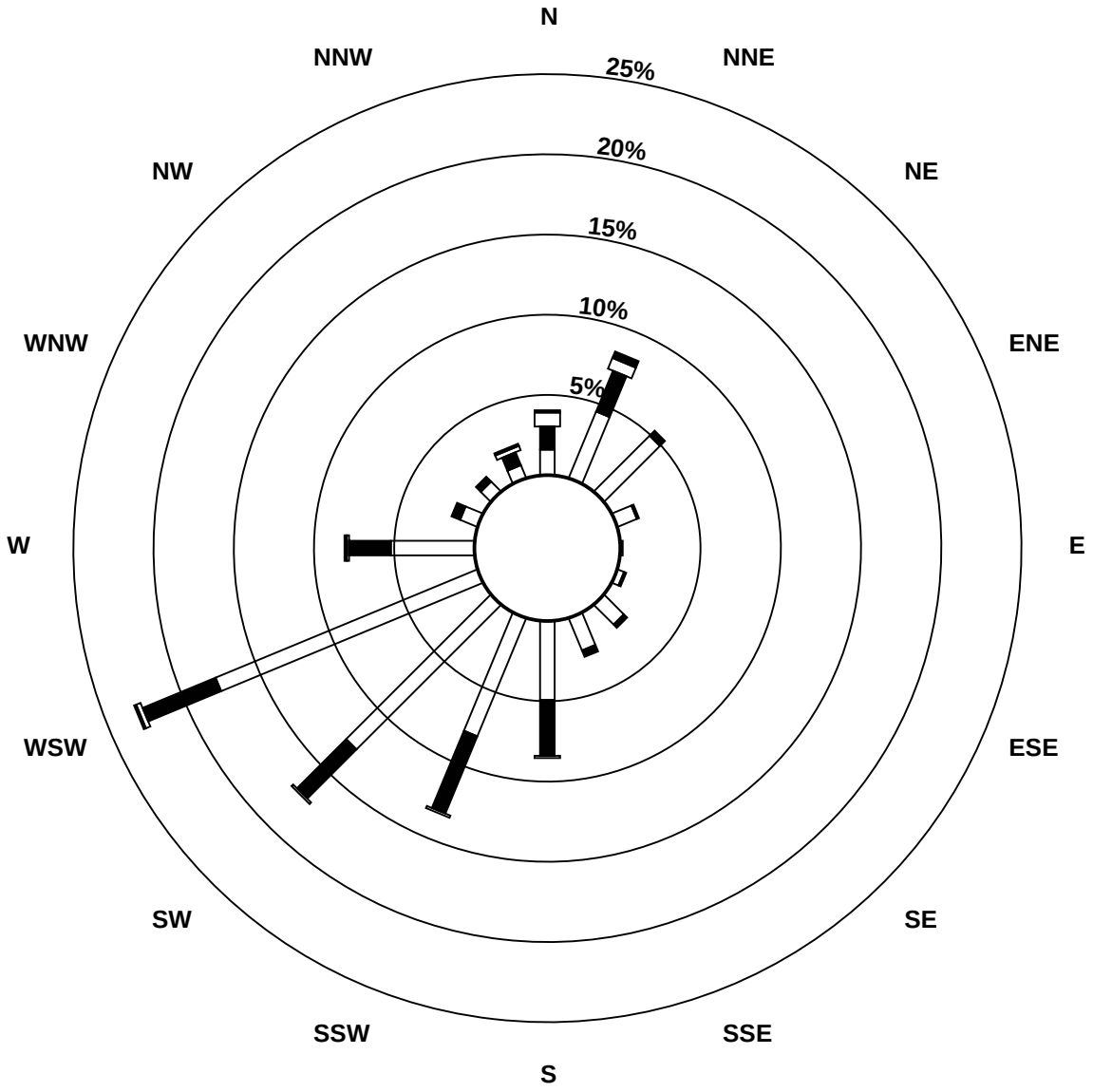


PASZA
Peace Air Shed Zone Association

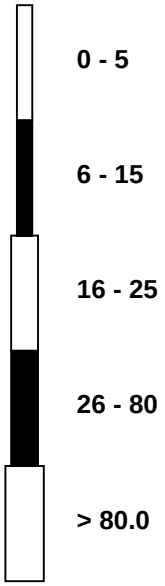
Pollutant Rose

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Smoky Heights - November 2010



Pollutant Classes ($\mu g/m^3$)



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.8 ^{o}C on Nov 1 16:00 Maximum Daily Average: 6.2 ^{o}C on Nov 2

Minimum Value: -31 ^{o}C on Nov 23 09:00 Minimum Daily Average: -26.0 ^{o}C on Nov 23
Maximum Diurnal Average: -2.4 ^{o}C at hour 15 Minimum Diurnal Average: -8.5 ^{o}C at hour 9
Monthly Average: -6.58 ^{o}C Percentiles: P_1 = -28.9 P_{10} = -22.3 Q_1 = -12.9 Median = -5.0 Q_3 = 1.4 P_{90} = 5.4 P_{99} = 10.6

Hours in Service:	720
Hours of Data:	718
Hours of Missing Data:	2
Hours of Calibration:	0
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	1	2	3	3	3	3	3	3	3	3	4	8	D	D	11	12	11	9	6	6	3	2	6	6	5.1	11.8
2-Nov	4	4	3	3	2	3	5	5	5	7	8	10	10	10	11	10	9	8	6	6	5	4	4	5	6.2	10.7
3-Nov	5	6	6	4	3	1	-1	-1	0	1	4	6	8	10	11	11	9	8	7	6	6	5	6	6	5.2	11.2
4-Nov	5	4	4	4	3	1	1	0	-1	1	4	7	8	9	9	9	9	9	9	8	7	4	3	2	5.0	9.4
5-Nov	5	7	9	7	6	6	6	6	5	5	5	5	5	6	6	5	5	2	1	0	-2	-1	-2	-3	3.9	9.0
6-Nov	-5	-4	-6	-7	-7	-7	-8	-8	-7	-6	-4	-2	-1	2	4	3	1	-1	-2	-4	-4	-4	-4	-4	-3.5	4.3
7-Nov	-5	-4	-4	-3	-3	-2	-2	-2	-2	-2	-1	2	4	5	4	3	2	0	-2	-4	-5	-5	-5	-6	-1.6	5.0
8-Nov	-6	-6	-7	-8	-8	-8	-8	-8	-7	-6	-4	-2	0	2	4	4	2	0	-2	-4	-4	-5	-7	-7	-3.9	4.1
9-Nov	-7	-7	-7	-9	-9	-8	-9	-6	-8	-6	-4	-2	1	3	4	3	1	-2	-4	-5	-4	-3	-2	-3	-3.8	3.8
10-Nov	-3	-4	-4	-5	-5	-4	-4	-4	-4	-4	-3	-2	-1	0	3	4	2	-1	-3	-5	-6	-7	-7	-7	-3.0	3.7
11-Nov	-8	-9	-10	-10	-10	-11	-11	-13	-12	-11	-7	-5	-3	-2	-1	0	-2	-3	-4	-3	-3	-2	-2	-2	-6.0	0.3
12-Nov	-3	-3	-3	-4	-4	-3	-4	-6	-4	-2	1	4	5	6	7	6	4	4	4	3	2	1	1	1	0.5	6.6
13-Nov	1	2	1	2	4	3	3	5	4	6	5	8	9	10	11	10	9	7	5	3	2	2	0	0	4.7	10.7
14-Nov	0	0	-1	0	0	1	1	1	1	2	3	5	7	7	8	7	6	4	3	5	5	3	3	2	3.0	7.5
15-Nov	2	2	2	1	1	1	1	2	1	1	1	2	2	1	-1	-2	-3	-3	-3	-4	-5	-6	-8	-9	-1.0	2.2
16-Nov	-10	-11	-11	-11	-11	-10	-10	-11	-13	-13	-12	-11	-10	-9	-10	-11	-11	-12	-12	-12	-12	-12	-12	-12	-11.3	-9.5
17-Nov	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-13	-13	-14	-12.4	-11.6
18-Nov	-15	-15	-15	-15	-16	-16	-16	-17	-17	-17	-17	-16	-15	-14	-14	-14	-16	-21	-23	-23	-25	-24	-25	-24	-17.9	-13.7
19-Nov	-25	-26	-25	-25	-25	-25	-26	-27	-26	-25	-24	-23	-21	-20	-19	-19	-20	-20	-22	-22	-21	-21	-19	-21	-22.8	-18.7
20-Nov	-19	-18	-17	-17	-16	-17	-18	-18	-18	-18	-17	-15	-13	-13	-13	-13	-15	-17	-21	-21	-22	-23	-22	-23	-17.6	-12.9
21-Nov	-22	-23	-24	-23	-20	-18	-18	-18	-18	-17	-16	-16	-15	-14	-14	-15	-16	-17	-17	-17	-18	-18	-19	-20	-18.0	-14.1
22-Nov	-20	-21	-22	-22	-23	-23	-24	-25	-26	-25	-23	-22	-23	-22	-23	-23	-25	-26	-28	-28	-28	-28	-28	-28	-24.4	-20.2
23-Nov	-27	-28	-29	-29	-30	-30	-30	-30	-31	-30	-27	-25	-23	-21	-20	-20	-22	-24	-24	-23	-24	-26	-25	-25	-26.0	-20.1
24-Nov	-26	-27	-27	-26	-25	-25	-25	-24	-24	-24	-21	-19	-18	-16	-14	-13	-13	-12	-12	-11	-11	-9	-9	-8	-18.3	-7.7
25-Nov	-6	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	1	2	3	2	0	-1	-5	-4	-4	-4	-3	-4	-1.3	2.5
26-Nov	-4	-4	-3	-3	-2	-2	-2	-4	-3	-2	-1	0	0	0	0	0	0	-2	-5	-7	-9	-9	-7	-7	-3.2	0.5
27-Nov	-6	-5	-5	-5	-4	-5	-5	-5	-6	-7	-7	-7	-7	-7	-7	-7	-8	-9	-9	-9	-9	-10	-10	-10	-7.0	-3.7
28-Nov	-10	-10	-10	-10	-10	-10	-10	-11	-11	-11	-10	-9	-8	-6	-7	-8	-11	-11	-10	-10	-11	-11	-14	-15	-10.1	-5.5
29-Nov	-12	-13	-13	-14	-15	-15	-16	-16	-18	-16	-15	-14	-11	-9	-8	-10	-12	-13	-13	-11	-11	-11	-9	-8	-12.6	-8.1
30-Nov	-7	-7	-7	-6	-5	-6	-6	-6	-5	-6	-4	-3	-2	-1	-2	-4	-3	-4	-4	-3	-2	-3	-3	-3	-4.2	-1.2
	-7.9	-7.7	-7.8	-8.0	-8.0	-8.0	-8.2	-8.4	-8.5	-7.8	-6.4	-4.8	-4.1	-3.1	-2.4	-2.7	-4.0	-5.4	-6.5	-7.0	-7.4	-7.9	-7.8	-8.0	Diurnal Average	
	5.1	7.3	9.0	6.9	5.6	5.7	5.9	5.8	5.3	7.0	8.4	10.0	10.3	10.5	11.3	11.8	10.6	9.1	8.6	7.7	7.0	4.7	6.1	6.4	Diurnal Maximum	

D - DAS Failure

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - November 2010

FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	5	7	14	11	13	14	14	13	6	9	10	7	D	D	26	32	23	29	22	16	8	3	17	21	11.3	31.8
Dir	27	42	139	153	163	158	158	158	173	186	181	188	D	D	223	225	216	228	232	225	264	268	229	227	205.1	224.7
2 Spd	12	17	10	17	16	13	20	27	28	34	28	28	46	56	53	50	41	32	29	30	26	24	22	27	27.5	55.8
Dir	204	204	183	204	215	186	238	235	240	241	250	254	251	249	250	249	247	239	241	248	239	237	242	249	240.3	249.1
3 Spd	25	30	30	19	18	15	10	8	6	8	6	8	10	12	12	11	11	11	8	8	6	4	13	9	5.3	30.3
Dir	253	261	261	247	249	255	220	241	200	247	227	175	140	134	128	117	102	94	74	40	41	126	155	134	213.9	260.9
4 Spd	7	7	7	10	10	4	6	8	8	9	10	11	8	8	6	4	8	7	9	10	9	7	7	4	6.2	10.7
Dir	131	153	150	169	184	158	159	200	212	212	205	199	228	248	264	202	232	246	254	266	245	231	224	188	210.2	199.3
5 Spd	9	7	15	34	29	29	27	32	27	29	31	28	35	36	31	27	23	16	17	18	13	17	13	9	22.1	35.8
Dir	278	354	307	269	247	251	249	247	234	239	247	250	256	256	252	247	243	239	246	248	255	241	250	251	251.6	255.8
6 Spd	11	10	10	13	15	7	8	9	10	11	7	7	8	7	10	7	6	7	6	4	3	3	5	4	5.6	14.5
Dir	224	233	246	257	258	248	214	202	190	187	191	192	191	184	174	129	175	222	255	267	282	353	29	7	217.4	258.1
7 Spd	4	7	7	11	9	8	12	13	13	16	13	9	4	7	9	12	10	10	11	8	7	6	8	7	2.2	16.4
Dir	14	20	13	23	27	21	21	26	24	31	27	24	20	140	235	231	228	225	220	248	216	237	228	213	350.9	30.6
8 Spd	7	9	7	5	7	5	7	6	8	8	8	8	9	11	10	7	7	7	10	10	7	7	10	7	6.4	10.7
Dir	214	200	224	223	227	238	255	251	258	206	191	175	172	177	170	156	166	250	268	258	259	223	217	218	215.5	177.1
9 Spd	7	7	7	6	8	5	9	8	9	8	8	7	7	7	9	9	7	4	8	7	6	7	7	1	6.0	9.2
Dir	244	210	270	230	213	203	261	263	252	275	194	195	195	208	219	174	186	236	257	253	258	253	273	264	232.2	218.8
10 Spd	3	5	7	3	1	4	5	5	5	5	5	5	7	9	11	16	6	8	8	2	7	12	15	14	5.1	15.9
Dir	223	203	196	309	264	233	265	279	186	208	191	199	195	183	200	249	241	354	341	177	250	251	264	259	238.3	248.7
11 Spd	17	13	10	6	8	6	6	8	7	6	8	7	6	7	3	1	3	3	1	5	3	8	7	7	5.2	16.9
Dir	266	262	262	235	240	198	236	248	241	198	201	201	209	177	136	356	330	354	355	284	208	240	238	196	235.9	265.9
12 Spd	9	9	10	13	16	17	13	11	17	19	21	29	34	36	36	34	22	28	30	25	19	17	21	20	19.8	36.5
Dir	176	223	216	217	225	237	232	236	235	239	241	251	255	257	254	252	238	234	225	218	203	200	205	198	233.2	254.0
13 Spd	19	18	15	17	18	14	10	19	15	23	24	38	35	40	38	39	31	24	21	17	22	22	17	15	20.6	39.6
Dir	193	195	186	209	204	181	227	223	206	236	240	250	256	259	265	268	261	257	253	249	258	256	265	272	243.1	259.3
14 Spd	10	11	13	9	6	10	9	7	8	9	10	17	19	13	17	14	8	9	8	12	17	16	14	16	10.3	18.6
Dir	257	252	230	239	227	209	201	193	217	229	246	232	253	257	286	271	248	220	245	302	297	291	278	244	252.1	253.4
15 Spd	10	17	16	9	9	11	10	24	19	14	20	15	13	13	17	20	20	19	18	18	21	23	22	19	9.1	23.6
Dir	253	251	253	222	191	206	255	315	334	320	314	329	341	345	34	38	41	44	38	38	32	34	25	14	355.1	314.7
16 Spd	22	20	16	14	14	12	8	11	9	12	12	10	8	6	9	11	11	10	13	13	13	11	8	9	10.4	21.5
Dir	22	32	28	27	20	18	16	335	309	310	330	351	23	4	10	32	37	34	30	31	40	57	65	66	19.8	22.0
17 Spd	9	10	11	10	10	12	12	13	13	15	19	20	21	21	24	26	24	26	28	27	27	25	24	20	18.5	28.1
Dir	66	49	50	57	47	45	42	48	46	47	53	61	56	54	55	53	52	53	49	48	48	48	47	44	50.8	48.7
18 Spd	20	19	19	19	19	20	21	18	13	13	14	13	10	7	9	6	5	5	6	5	4	5	5	5	9.2	21.2
Dir	41	39	37	35	29	27	28	26	25	24	22	22	14	6	343	348	356	299	269	264	246	264	218	224	19.8	28.4
19 Spd	4	5	5	6	5	5	6	4	5	7	7	6	6	5	4	4	2	2	2	0	2	2	1	2	3.1	6.7
Dir	241	220	237	219	227	219	209	199	200	189	179	182	177	179	172	173	170	276	300	353	330	9	309	291	206.6	179.1
20 Spd	3	3	3	3	3	4	4	4	3	4	4	2	2	2	2	0	2	2	2	2	3	2	1	0	2.0	4.2
Dir	268	228	217	225	205	180	180	192	201	187	189	209	180	119	158	130	230	263	257	256	274	274	279	269	212.8	179.7
21 Spd	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	2	2	9	9	10	17	20	21	3.8	21.1
Dir	307	349	16	347	345	359	147	0	299	220	184	177	213	278	349	30	355	355	9	25	9	9	11	11	8.7	10.5
22 Spd	21	25	24	22	23	20	12	9	10	9	6	4	10	12	14	16	17	14	13	9	13	14	12	16	4.6	25.1
Dir	14	25	18	21	26	24	10	13	352	343	337	308	225	232	236	234	232	240	254	251	234	226	214	215	312.4	25.4

PASZA
Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	16	14	15	14	13	14	12	12	11	11	11	13	11	10	8	8	9	10	16	12	12	11	14	11	11.0	15.8
Dir	211	189	184	194	195	191	204	225	195	200	205	207	226	216	250	247	240	233	264	264	243	213	214	207	215.2	210.8
24 Spd	10	10	10	11	5	9	8	10	10	8	10	11	12	15	15	9	8	14	13	12	8	8	10	12	9.8	15.4
Dir	209	204	194	191	216	195	204	195	192	214	188	183	179	187	186	186	217	230	232	242	249	209	190	196	202.4	186.5
25 Spd	11	43	38	30	36	36	39	41	39	32	30	33	36	36	35	25	14	10	5	12	15	9	2	3	25.0	42.8
Dir	205	253	257	247	253	256	254	256	256	257	252	252	258	261	258	257	217	216	205	253	253	237	261	261	252.2	252.5
26 Spd	2	3	4	5	6	5	4	3	3	6	5	3	5	3	3	5	5	6	6	3	6	14	14	7	3.1	14.5
Dir	263	230	335	360	20	18	13	338	260	243	227	221	228	154	260	206	196	214	201	196	231	222	225	256	237.0	224.6
27 Spd	8	12	9	9	9	10	5	4	11	12	12	11	12	12	10	9	8	7	8	6	7	5	5	2	4.9	12.3
Dir	259	266	252	246	257	238	304	24	22	32	13	12	14	19	22	20	21	14	6	24	9	17	42	41	353.5	13.2
28 Spd	4	4	2	1	5	6	5	5	5	5	6	5	7	4	5	5	5	7	8	9	8	8	8	9	4.4	9.0
Dir	47	58	51	143	217	233	200	234	224	240	229	216	215	217	156	194	233	251	226	250	246	248	234	237	227.9	249.5
29 Spd	12	14	12	9	6	6	7	5	6	5	5	6	4	3	2	3	5	6	2	3	7	6	4	5	2.9	13.6
Dir	257	263	270	253	247	243	227	226	208	245	212	207	218	194	237	294	24	21	36	75	23	19	53	117	254.1	263.0
30 Spd	5	8	6	4	2	3	4	4	3	2	5	7	7	8	6	3	4	4	3	5	6	7	5	8	3.1	8.2
Dir	140	165	181	164	137	355	47	308	336	345	258	229	214	188	183	211	270	275	216	230	236	228	243	219	215.6	164.7
Spd	3.6	4.7	4.5	4.9	5.2	4.5	4.9	5.9	5.5	6.2	6.0	6.7	8.0	8.1	8.1	7.2	5.5	5.3	5.4	5.0	4.7	4.5	4.7	4.4	Diurnal Average	
Dir	243.3	245.6	248.9	239.1	237.2	232.2	242.6	252.3	244.8	247.1	244.2	240.0	244.5	241.6	244.9	245.1	238.4	246.2	257.0	263.9	267.9	253.2	242.9	236.8		
Spd	25.2	42.8	38.1	34.2	35.7	36.4	39.4	41.3	38.5	33.7	30.7	37.9	46.5	55.8	52.6	50.2	41.2	31.5	29.6	29.6	26.5	24.7	23.8	27.2	Diurnal Maximum	
Dir	252.9	252.5	257.2	269.1	252.8	256.1	253.8	256.1	256.1	240.8	247.0	249.7	251.4	249.1	249.6	248.6	247.2	239.2	225.5	247.6	47.6	48.2	46.7	248.7		

Maximum Speed Value: 56 km/h on Nov 2 14:00
Maximum Daily Speed Average: 27.5 km/h on Nov 2
Maximum Diurnal Speed Average: 8.1 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 21 00:00
Minimum Daily Speed Average: 2.0 km/h on Nov 20
Minimum Diurnal Speed Average: 3.6 km/h at hour 1

Monthly Average Velocity: 5.51 km/h 245.65 deg

Speed Percentiles: $P_1 = 0.7$ $P_{10} = 3.1$ $Q_1 = 5.8$ Median = 9.1 $Q_3 = 14.5$ $P_{90} = 23.9$ $P_{99} = 41.1$

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	718
Hours of Missing Data:	2
Percent Operational Time:	99.7

D - DAS Failure

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	24	32	12	7	0	0	75
NorthEast	12	19	28	26	1	0	86
East	1	2	1	0	0	0	4
SouthEast	10	9	6	0	0	0	25
South	26	66	22	2	0	0	116
SouthWest	35	111	48	22	12	1	229
West	29	47	33	9	27	11	156
NorthWest	14	2	9	2	0	0	27
Total	151	288	159	68	40	12	718

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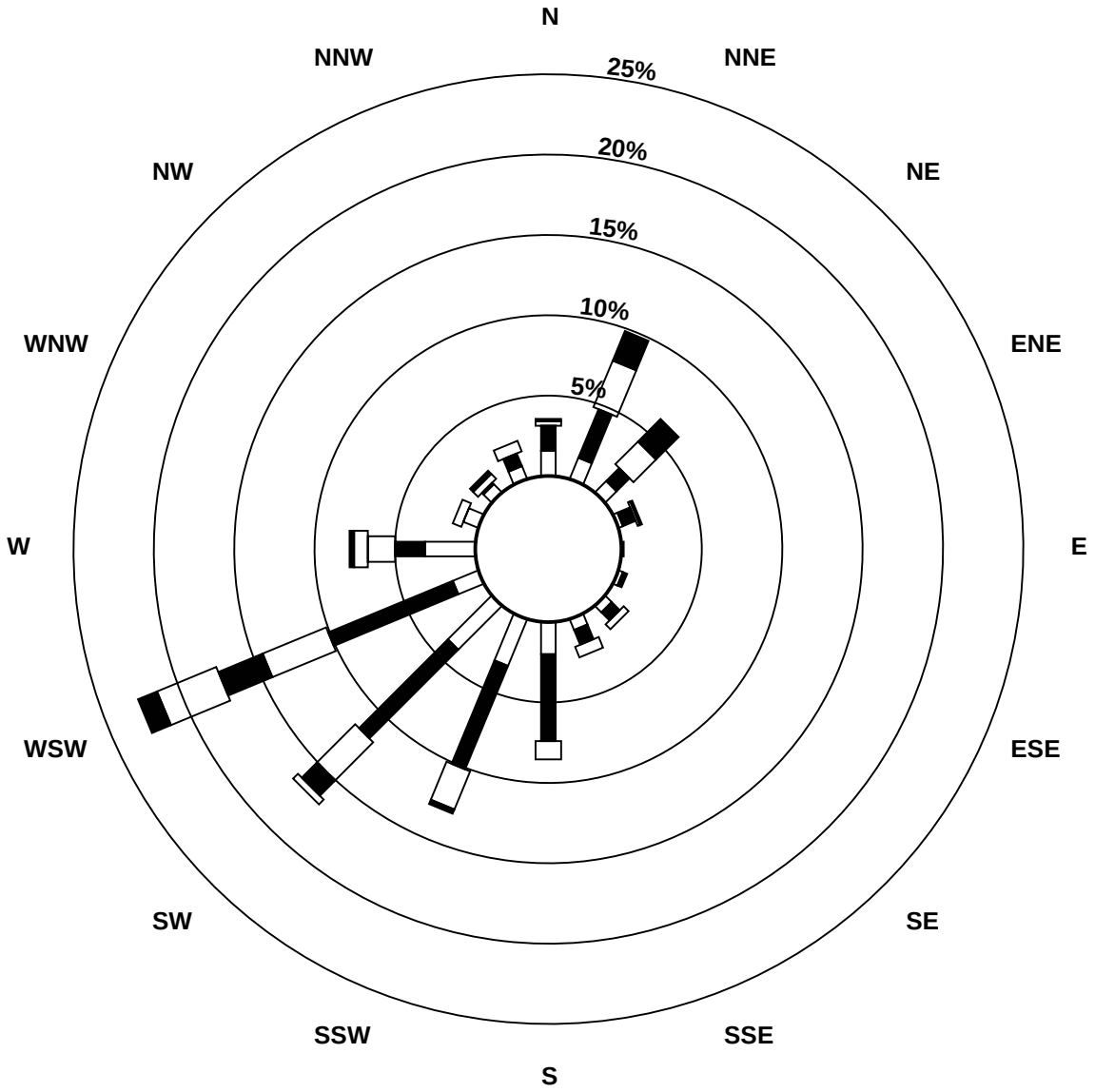
Peace Air Shed Zone Association

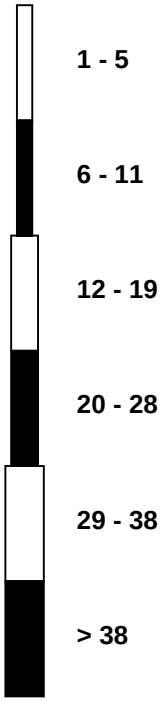
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - November 2010



Wind Speed Classes (km/h)



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - November 2010

Maximum Speed: 56 km/h on Nov 2 14:00

Maximum Daily Speed Average: 28.8 km/h on Nov 2

Minimum Speed: 1 km/h on Nov 21 06:00

Minimum Daily Speed Average: 2.8 km/h on Nov 20

Maximum Diurnal Speed Average: 14.8 km/h at hour 15

Minimum Diurnal Speed Average: 10.5 km/h at hour 1

Monthly Average Speed: 11.94 km/h

Percentiles: P_1 = 1.1 P_{10} = 4.0 Q_1 = 6.1 Median = 9.4 Q_3 = 14.7 P_{90} = 24.2 P_{99} = 41.2

Hours in Service:	720
Hours of Data:	718
Hours of Missing Data:	2
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	8	14	11	13	14	14	14	7	9	11	8	D	D	26	32	23	29	22	16	9	7	19	21	15.1	31.9
2-Nov	13	17	10	18	16	13	20	27	28	34	28	28	47	56	53	50	41	32	29	30	26	24	22	27	28.8	56.0
3-Nov	25	31	30	19	18	15	11	9	8	8	7	8	10	13	12	12	11	12	8	8	6	6	13	9	12.9	30.7
4-Nov	8	7	7	10	10	4	6	8	8	9	10	11	8	8	7	6	8	8	10	11	10	8	9	5	8.2	10.8
5-Nov	10	12	15	35	29	29	27	32	28	29	31	29	35	36	31	28	23	16	17	18	13	17	13	9	23.4	36.0
6-Nov	12	10	10	13	15	7	9	10	10	11	8	7	8	7	10	8	7	8	6	4	4	4	5	4	8.2	14.5
7-Nov	4	7	8	11	9	8	12	13	13	16	14	9	5	8	9	12	10	10	11	8	7	7	9	8	9.6	16.5
8-Nov	7	9	7	6	7	5	7	7	8	8	8	8	9	11	10	7	7	7	10	10	8	8	10	7	8.0	10.7
9-Nov	7	7	8	6	9	6	9	12	10	9	11	7	7	8	10	9	7	4	8	7	6	8	7	3	7.7	12.1
10-Nov	4	5	7	5	3	5	5	5	5	5	5	5	7	9	13	16	7	8	8	4	7	12	15	15	7.6	16.1
11-Nov	17	13	11	7	8	7	7	8	7	6	8	7	6	7	3	3	4	3	2	5	5	9	8	7	7.0	16.9
12-Nov	9	9	10	13	16	18	13	11	17	20	21	29	34	36	37	34	22	28	30	25	19	17	21	20	21.2	36.6
13-Nov	19	18	16	18	19	15	11	19	16	23	24	38	36	40	38	39	31	24	21	17	22	22	17	15	23.1	39.7
14-Nov	10	11	13	9	7	10	9	7	9	9	10	17	19	13	17	15	8	10	8	12	17	16	15	16	11.9	18.7
15-Nov	11	17	16	9	10	11	11	25	20	15	20	15	13	14	17	20	20	19	18	18	21	24	22	19	16.9	24.7
16-Nov	22	20	16	15	14	12	8	11	9	12	12	10	8	7	10	11	12	10	13	13	13	11	8	9	12.0	21.7
17-Nov	9	10	11	10	10	12	12	13	13	15	19	20	21	21	24	26	24	26	28	27	27	25	24	20	18.6	28.2
18-Nov	20	19	19	19	19	20	21	18	13	13	14	13	10	8	9	6	5	5	7	5	5	5	6	5	11.8	21.2
19-Nov	5	5	5	6	5	5	6	5	5	7	7	6	6	5	4	4	2	2	2	2	2	2	1	2	4.2	6.7
20-Nov	3	3	3	3	3	4	4	4	3	4	4	3	3	2	2	1	2	2	2	2	3	2	2	1	2.8	4.3
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	9	9	10	17	20	21	4.5	21.2
22-Nov	22	25	24	22	23	20	12	9	10	9	7	6	11	12	14	16	17	15	13	9	13	14	13	16	14.6	25.2
23-Nov	16	14	15	14	13	14	13	12	12	11	11	13	11	11	8	8	9	10	16	12	12	12	15	11	12.1	16.0
24-Nov	10	10	10	11	6	9	8	10	10	8	10	11	12	15	16	9	8	14	13	12	8	9	10	12	10.4	15.5
25-Nov	12	43	38	30	36	36	39	41	39	32	30	33	36	36	36	25	14	11	6	13	15	10	5	3	25.8	42.9
26-Nov	2	4	4	5	6	5	4	3	4	6	5	5	6	6	4	7	5	6	6	5	6	14	15	7	5.9	14.5
27-Nov	8	12	9	9	9	10	6	4	11	12	13	11	12	12	10	9	8	8	8	6	7	5	5	2	8.6	12.5
28-Nov	4	4	2	2	5	6	5	5	5	5	6	5	7	4	5	5	6	7	8	9	8	8	8	9	5.8	9.1
29-Nov	12	14	12	9	6	6	7	5	7	5	5	6	4	3	3	3	5	6	4	5	7	6	4	6	6.3	13.7
30-Nov	6	8	6	5	3	3	4	5	4	3	5	7	7	8	6	4	4	4	4	5	7	8	6	8	5.4	8.3
	10.5	12.5	11.9	11.7	11.6	11.1	10.7	11.8	11.3	11.9	12.1	12.4	13.8	14.4	14.8	14.2	11.8	11.5	11.6	10.9	10.8	11.2	11.5	10.7	Diurnal Average	
	25.3	42.9	38.3	34.9	35.7	36.5	39.5	41.4	38.5	33.8	30.9	38.0	46.7	56.0	52.7	50.3	41.3	31.6	29.9	29.7	26.6	24.8	23.9	27.2	Diurnal Maximum	

D - DAS Failure

All monthly, daily, and diurnal averages have been calculated using scalar methods

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - November 2010

Maximum Value: 93.5 deg on Nov 10 00:00

Minimum Value: 2.3 deg on Nov 25 11:00

Percentiles: P_1 = 2.7 P_{10} = 4.5 Q_1 = 6.0 Median = 10.7 Q_3 = 19.6 P_{90} = 34.0 P_{99} = 71.8

Hours in Service:	720
Hours of Data:	718
Hours of Missing Data:	2
Hours of Calibration:	0
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Nov	24	30	8	6	11	4	7	5	32	25	16	24	D	D	7	5	4	5	6	14	24	71	55	5	70.7
2-Nov	25	10	24	13	6	9	22	3	3	4	7	7	5	5	4	5	3	4	4	3	5	6	6	3	24.7
3-Nov	5	10	3	12	9	14	30	41	42	24	27	12	12	9	11	16	7	11	29	9	12	55	6	10	54.5
4-Nov	29	17	24	4	7	22	21	9	10	14	9	8	16	21	29	52	18	20	24	13	17	33	32	50	51.8
5-Nov	40	54	13	13	5	5	4	4	7	8	7	6	6	5	6	5	5	7	11	13	8	7	6	8	53.7
6-Nov	12	12	10	4	3	21	10	15	13	11	13	15	17	13	15	18	17	22	14	28	37	51	9	11	50.9
7-Nov	20	11	12	4	8	8	7	5	4	4	9	9	33	26	27	8	6	9	15	10	28	29	23	30	33.2
8-Nov	13	6	14	20	16	19	9	17	16	15	16	10	8	6	9	14	6	15	11	8	29	20	8	8	28.7
9-Nov	19	19	9	22	17	26	11	54	33	36	48	13	18	14	19	5	10	27	11	14	21	25	11	94	93.5
10-Nov	40	21	23	65	70	27	27	26	24	16	16	15	9	7	29	9	37	12	18	68	21	6	4	3	69.6
11-Nov	5	4	33	13	33	13	26	7	11	13	14	17	20	13	41	74	53	40	72	24	83	13	14	17	82.6
12-Nov	15	16	20	8	6	4	7	6	2	2	4	4	5	5	4	5	7	4	8	6	7	7	7	3	19.6
13-Nov	9	7	8	17	16	12	23	4	12	5	6	5	5	5	6	4	4	3	3	7	3	5	5	3	22.7
14-Nov	13	17	6	11	32	9	9	6	14	14	9	3	6	10	13	9	12	5	20	10	6	4	19	5	31.6
15-Nov	9	8	6	19	8	10	22	20	30	15	6	13	9	19	7	6	5	6	6	5	6	5	6	5	30.0
16-Nov	9	5	6	7	9	9	12	12	10	8	7	24	18	35	22	12	11	9	6	5	7	16	9	10	35.3
17-Nov	9	7	6	12	6	5	6	5	6	6	6	7	6	6	6	5	5	5	4	4	4	5	5	7	12.3
18-Nov	6	5	5	5	4	3	3	3	4	4	5	5	8	16	11	19	12	31	23	11	40	8	30	9	40.1
19-Nov	14	24	22	15	13	17	15	22	11	7	6	6	6	5	9	17	48	33	36	73	17	41	42	15	73.5
20-Nov	23	28	19	14	30	11	13	11	12	12	6	32	31	56	40	85	27	40	40	14	12	17	32	85	84.7
21-Nov	14	33	40	70	26	52	35	28	77	72	9	10	38	9	34	8	12	14	10	5	7	6	5	5	77.2
22-Nov	5	4	4	5	4	5	6	8	12	6	15	53	8	6	6	6	5	11	4	15	7	8	9	11	52.6
23-Nov	9	7	4	6	5	4	11	8	13	8	4	13	14	19	16	13	14	15	6	9	6	10	7	5	18.9
24-Nov	9	6	10	10	19	7	5	3	6	10	4	7	5	7	5	5	21	4	5	6	14	5	5	3	20.9
25-Nov	18	5	7	4	3	3	3	3	2	3	2	3	3	3	3	6	16	27	34	13	6	21	72	20	72.4
26-Nov	54	44	27	12	15	17	27	39	32	13	22	57	45	64	51	44	25	18	18	83	16	7	4	14	83.3
27-Nov	7	9	7	10	12	12	35	25	7	6	13	8	10	9	6	8	7	7	10	9	12	9	16	50	50.2
28-Nov	9	13	25	74	10	7	10	5	12	15	14	15	11	27	18	30	21	13	15	7	8	6	6	11	73.6
29-Nov	5	3	5	13	9	9	11	20	17	12	16	14	7	9	47	10	24	7	60	48	5	12	29	29	60.3
30-Nov	21	9	13	38	56	36	32	45	48	50	29	10	16	7	9	33	12	25	38	19	37	24	25	19	55.5
	54.4	53.7	39.8	73.6	69.6	52.2	35.4	54.1	77.2	72.0	47.9	57.4	45.4	64.4	50.8	84.7	52.8	40.0	72.0	83.3	82.6	70.7	72.4	93.5	

D - DAS Failure

PASZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.9 ppb on Nov 18 12:00 Maximum Daily Average: 0.8 ppb on Nov 18

Minimum Value: 0 ppb on Nov 1 13:00 Minimum Daily Average: 0.0 ppb on Nov 14
Maximum Diurnal Average: 0.5 ppb at hour 12 Minimum Diurnal Average: 0.2 ppb at hour 4
Monthly Average: 0.32 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.5 P_{90} = 0.7 P_{99} = 1.3

Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
2-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
3-Nov	0	0	0	0	A	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0.4	1.3
4-Nov	1	1	1	1	A	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0.7	1.3
5-Nov	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-Nov	0	0	0	0	A	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.7
8-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
9-Nov	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	1	0	0	0	0	0	0	1	0.2	0.7
10-Nov	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
11-Nov	0	0	0	0	A	0	0	1	1	0	1	1	1	1	1	1	0	1	0	0	1	1	1	1	0.6	1.1
12-Nov	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
13-Nov	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
16-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
17-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	0	0	0.3	0.7
18-Nov	0	0	0	1	A	1	1	1	1	1	1	3	2	2	1	1	1	1	1	1	0	1	0	0	0.8	2.9
19-Nov	1	0	0	0	A	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	0.4	0.6
20-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.4	0.9
21-Nov	0	0	0	0	A	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0.4	0.8
22-Nov	0	0	0	0	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
23-Nov	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	1	1	0	0	0.7	1.5
24-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.7
25-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
26-Nov	0	0	0	1	A	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0.4	0.6
27-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0.5	1.3
28-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0.5	1.0
29-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.5	1.4
30-Nov	1	1	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	1	1	0.5	1.2
	0.3	0.3	0.3	0.2	--	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	Diurnal Average	
	0.9	1.0	1.2	0.9	--	1.0	1.5	0.9	0.8	1.2	0.9	2.9	2.1	1.7	1.4	1.0	0.9	1.0	0.9	0.9	0.9	1.2	1.3	1.1	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

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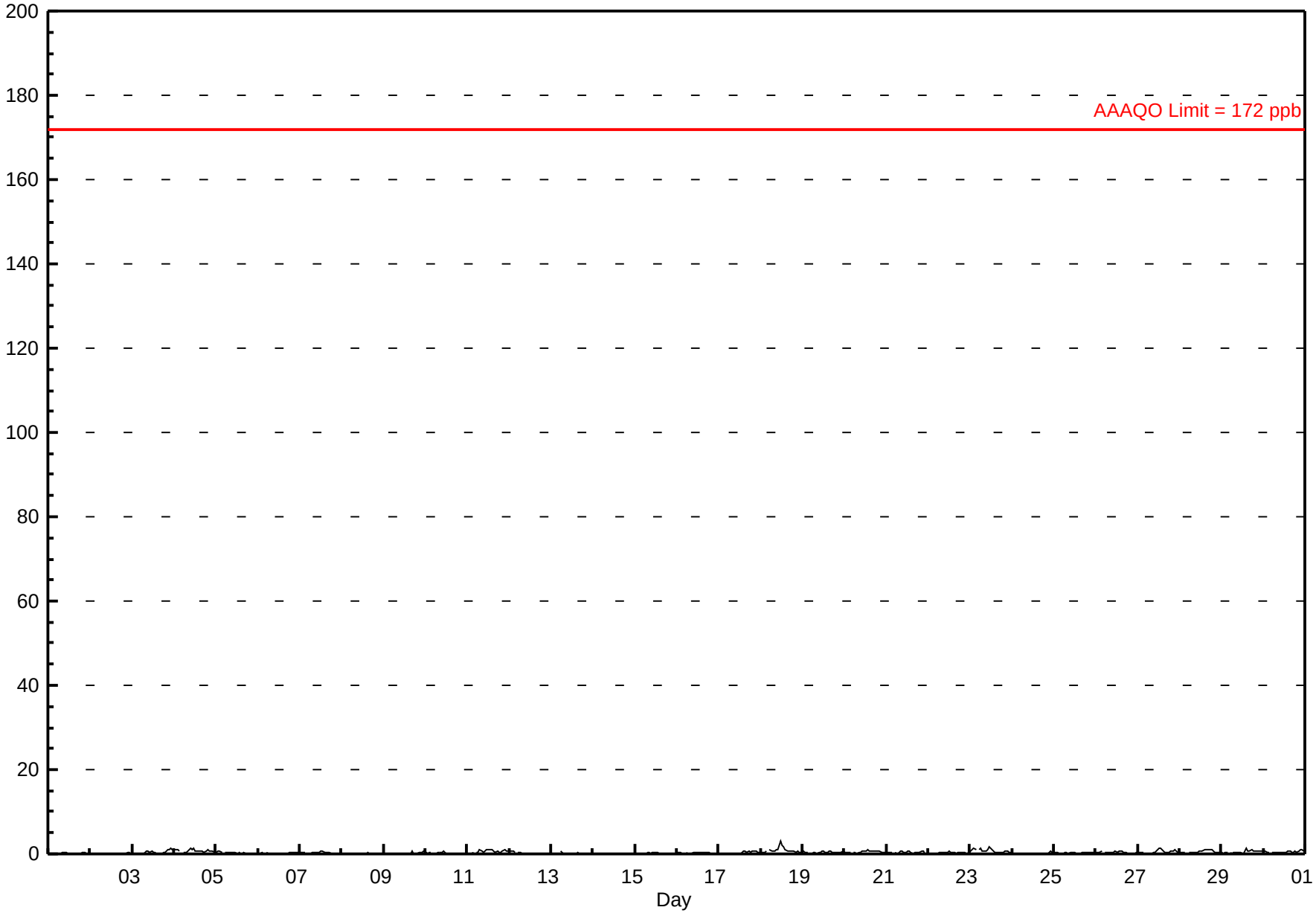
Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - November 2010

Maximum Value: 4.3 ppb on Nov 9 17:00

Maximum Daily Average: 1.1 ppb on Nov 23

Minimum Value: 0 ppb on Nov 8 09:00

Minimum Daily Average: 0.2 ppb on Nov 14

Maximum Diurnal Average: 0.8 ppb at hour 12

Minimum Diurnal Average: 0.4 ppb at hour 4

Monthly Average: 0.52 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.2 Median = 0.4 Q_3 = 0.7 P_{90} = 1.1 P_{99} = 2.1

Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0.4	0.8
2-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
3-Nov	0	0	0	0	A	0	0	2	1	1	1	2	1	1	0	0	0	0	0	1	1	1	2	1	0.8	2.1
4-Nov	1	1	1	1	A	1	0	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.1
5-Nov	1	1	1	1	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
7-Nov	0	0	0	0	A	0	0	0	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0.4	0.8
8-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
9-Nov	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	4	0	0	0	0	0	0	1	0.5	4.3
10-Nov	1	0	1	1	A	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
11-Nov	0	0	0	0	A	0	1	1	1	0	2	2	2	1	2	1	1	1	1	1	1	2	1	1	1.0	2.3
12-Nov	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
13-Nov	0	0	0	0	A	1	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	1.6
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
16-Nov	1	1	1	0	A	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0.4	0.9
17-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0.4	1.0
18-Nov	1	1	1	1	A	1	1	1	1	1	1	4	2	2	1	1	1	1	1	1	1	1	1	1	1.0	3.7
19-Nov	1	0	1	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	0.6	0.9
20-Nov	1	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	1.1
21-Nov	0	0	0	1	A	0	0	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	0	0	0.6	1.5
22-Nov	0	0	0	0	A	0	1	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0.4	1.3
23-Nov	1	1	1	1	A	2	2	1	1	1	2	3	2	1	1	1	0	0	1	1	1	1	0	0	1.1	2.8
24-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	1.3
25-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
26-Nov	1	1	1	1	A	1	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	0.8
27-Nov	0	0	0	0	A	0	0	0	0	1	1	1	2	1	1	1	0	0	0	1	1	1	1	1	0.7	1.6
28-Nov	0	0	0	0	A	0	1	1	0	0	1	1	1	1	2	1	1	1	1	1	1	1	0	0	0.7	1.6
29-Nov	0	0	0	0	A	0	0	0	0	1	0	0	1	1	2	1	1	1	1	1	1	1	1	1	0.7	2.2
30-Nov	1	1	1	1	A	0	1	0	0	1	0	1	0	1	1	1	1	1	1	1	1	2	1	1	0.7	1.9
	0.5	0.4	0.5	0.4	--	0.4	0.4	0.5	0.4	0.5	0.6	0.8	0.6	0.6	0.7	0.5	0.6	0.4	0.4	0.5	0.5	0.6	0.5	0.5	Diurnal Average	
	1.1	1.2	1.4	1.2	--	1.9	1.8	1.5	1.4	1.6	2.0	3.7	2.5	2.1	2.3	1.5	4.3	1.2	1.2	1.3	1.5	1.9	1.5	1.4	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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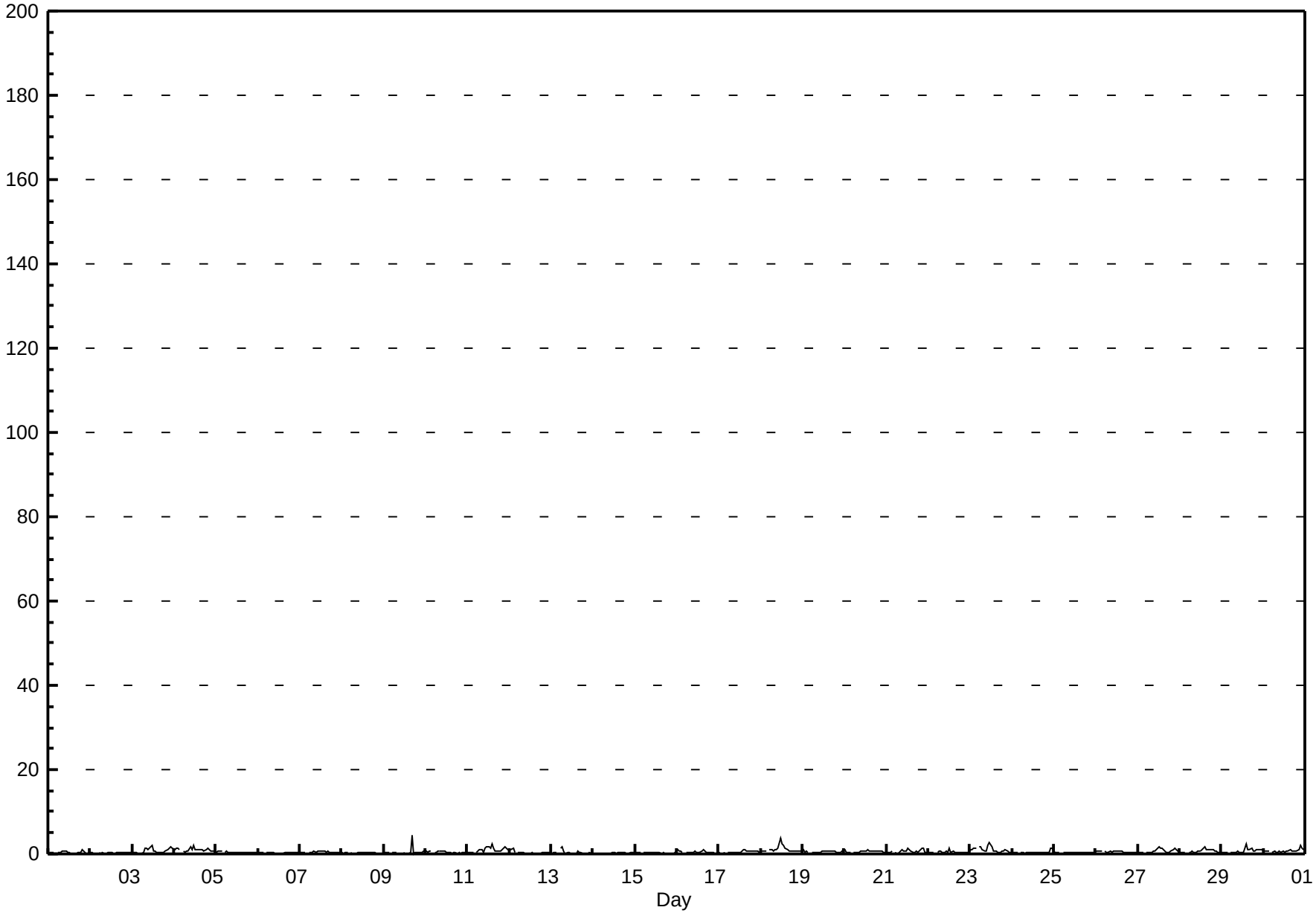
Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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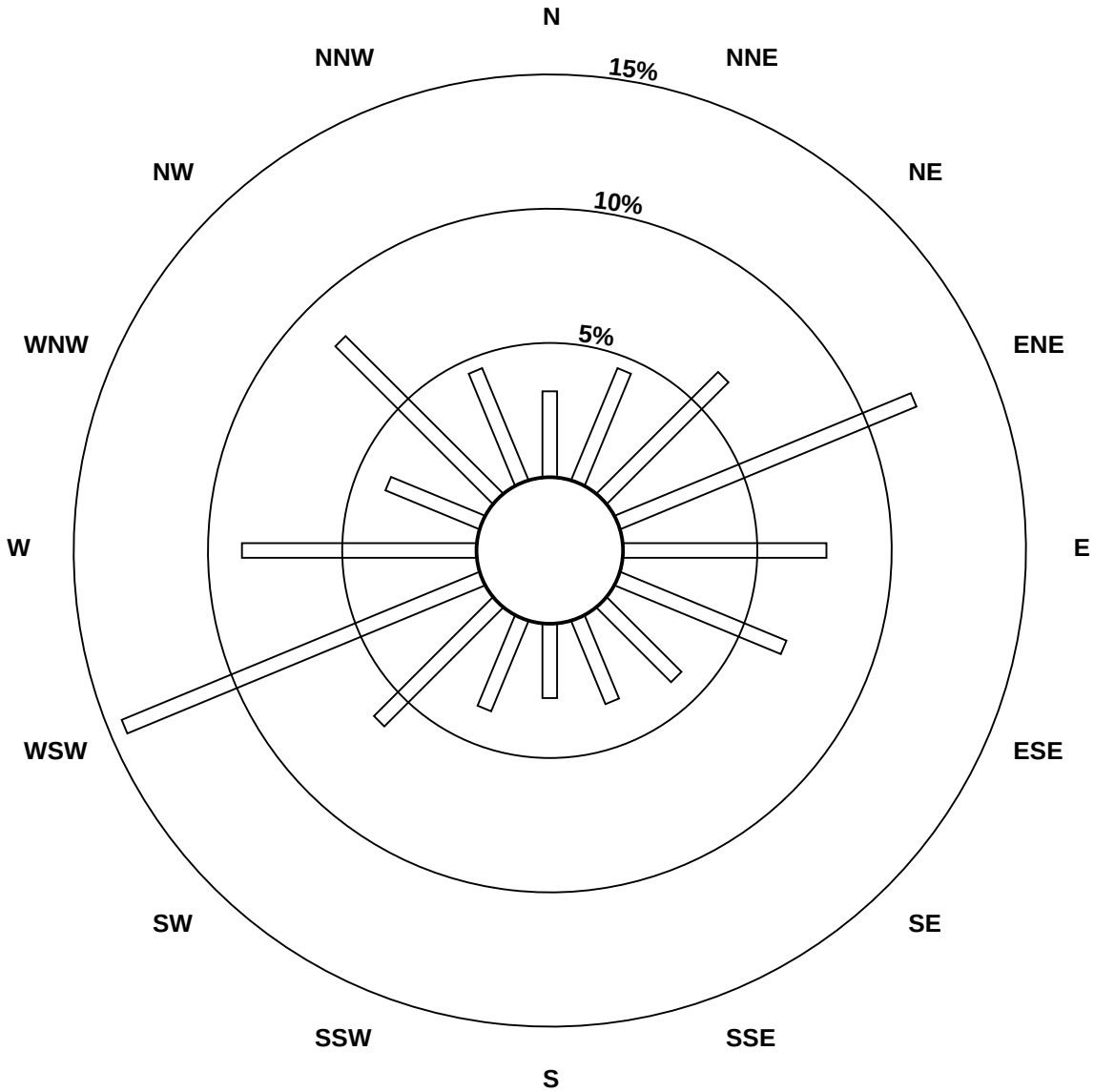
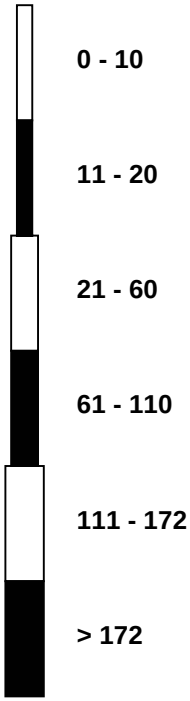
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 25.9 ppb on Nov 30 19:00
Maximum Daily Average: 18.5 ppb on Nov 30

Minimum Value: 0 ppb on Nov 5 16:00
Maximum Diurnal Average: 6.9 ppb at hour 18
Monthly Average: 5.46 ppb

Minimum Daily Average: 0.9 ppb on Nov 17
Minimum Diurnal Average: 4.5 ppb at hour 2
Percentiles: P_1 = 0.4 P_{10} = 0.7 Q_1 = 1.6 Median = 4.2 Q_3 = 7.4 P_{90} = 12.8 P_{99} = 22.8

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	3	4	A	8	6	10	11	6	6	2	2	1	1	1	1	1	2	3	2	1	1	2	3.4	11.3
2-Nov	1	1	1	1	A	2	1	1	1	1	5	5	4	4	3	2	1	2	1	1	2	1	1	1	1.7	4.6
3-Nov	0	1	0	1	A	2	3	5	7	7	10	7	3	5	3	2	3	4	3	3	3	4	4	4	3.7	10.3
4-Nov	5	6	6	5	A	12	11	10	14	13	13	17	19	19	13	12	16	16	15	9	8	11	6	4	11.4	19.1
5-Nov	2	1	1	0	A	3	1	1	1	1	1	1	1	1	1	0	2	2	2	2	2	1	2	3	1.3	2.7
6-Nov	5	4	4	6	A	6	6	8	6	8	6	4	4	4	4	5	8	7	5	5	6	5	4	6	5.4	8.1
7-Nov	8	8	6	11	A	7	5	4	4	5	6	5	4	4	4	5	5	7	6	5	4	4	4	4	5.4	10.6
8-Nov	3	2	3	2	A	8	8	12	14	9	8	6	4	4	5	5	2	8	5	4	3	3	3	4	5.4	13.8
9-Nov	5	5	5	5	A	5	11	8	C	C	C	C	C	3	2	2	14	6	4	4	8	11	7	9	6.3	14.1
10-Nov	12	11	12	13	A	9	6	17	C	C	C	C	2	1	1	5	8	11	6	3	2	3	2	1	6.7	17.2
11-Nov	1	2	3	2	A	5	5	5	5	10	9	7	6	7	7	9	8	13	11	15	12	10	9	10	7.4	15.2
12-Nov	9	9	9	5	A	3	2	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	3	1	2.7	8.9
13-Nov	1	2	3	2	A	4	2	3	1	1	1	1	1	1	0	0	1	1	2	1	3	1	1	1	1.5	3.6
14-Nov	1	1	1	1	A	3	3	4	5	6	3	1	3	4	1	1	2	2	2	3	2	2	3	3	2.3	5.9
15-Nov	3	2	2	2	A	3	2	2	2	3	3	4	3	2	1	1	1	1	1	0	0	0	1	1	1.8	4.2
16-Nov	1	1	0	0	A	2	2	1	4	4	2	3	2	2	2	2	2	2	1	1	1	1	1	1	1.6	4.4
17-Nov	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	0.9	1.8
18-Nov	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	4	6	12	8	7	5	6	9	5	3.3	11.5
19-Nov	15	9	18	19	A	21	18	13	10	11	7	6	4	5	7	4	6	6	9	11	7	6	7	4	9.7	20.7
20-Nov	12	12	9	9	A	17	13	13	7	4	3	3	2	2	6	6	5	5	5	4	8	6	4	3	6.9	17.5
21-Nov	3	5	6	8	A	13	10	10	11	10	8	7	4	3	3	3	6	6	5	4	3	1	1	0	5.7	12.8
22-Nov	0	1	0	0	A	1	1	2	4	4	3	2	2	2	1	3	6	15	13	7	7	7	9	8	4.3	15.1
23-Nov	8	9	8	8	A	4	5	7	7	4	6	8	5	7	11	18	17	13	17	12	8	8	5	4	8.6	17.8
24-Nov	4	5	4	3	A	5	3	4	6	4	6	8	3	6	6	1	2	2	3	2	1	1	2	1	3.6	7.8
25-Nov	0	0	0	0	A	1	1	1	1	2	1	1	1	2	2	2	1	2	2	2	6	3	5	3	1.7	5.6
26-Nov	2	2	2	3	A	4	5	11	11	12	23	23	23	16	10	8	7	3	2	1	2	3	4	5	7.9	22.9
27-Nov	6	4	5	5	A	7	7	7	4	19	9	5	4	4	4	5	5	5	5	6	8	8	7	6	6.4	19.4
28-Nov	6	8	6	8	A	9	15	12	11	6	5	4	7	7	7	7	12	10	9	9	6	6	6	4	7.8	14.8
29-Nov	4	3	4	4	A	4	3	6	6	8	6	5	9	14	18	19	20	20	18	12	14	16	15	19	10.7	20.3
30-Nov	16	19	20	16	A	16	21	20	13	19	13	14	14	10	18	24	23	24	26	24	23	14	22	16	18.5	25.9
	4.6	4.5	4.8	4.8	--	6.2	5.9	6.6	6.0	6.5	5.9	5.4	4.8	4.7	4.9	5.3	6.4	6.9	6.4	5.5	5.3	4.9	4.9	4.5	Diurnal Average	
	16.0	18.8	20.2	19.5	--	20.7	21.1	20.3	14.4	19.4	22.9	22.8	22.5	18.6	18.2	23.6	22.8	23.6	25.9	24.2	22.8	16.1	22.4	18.6	Diurnal Maximum	

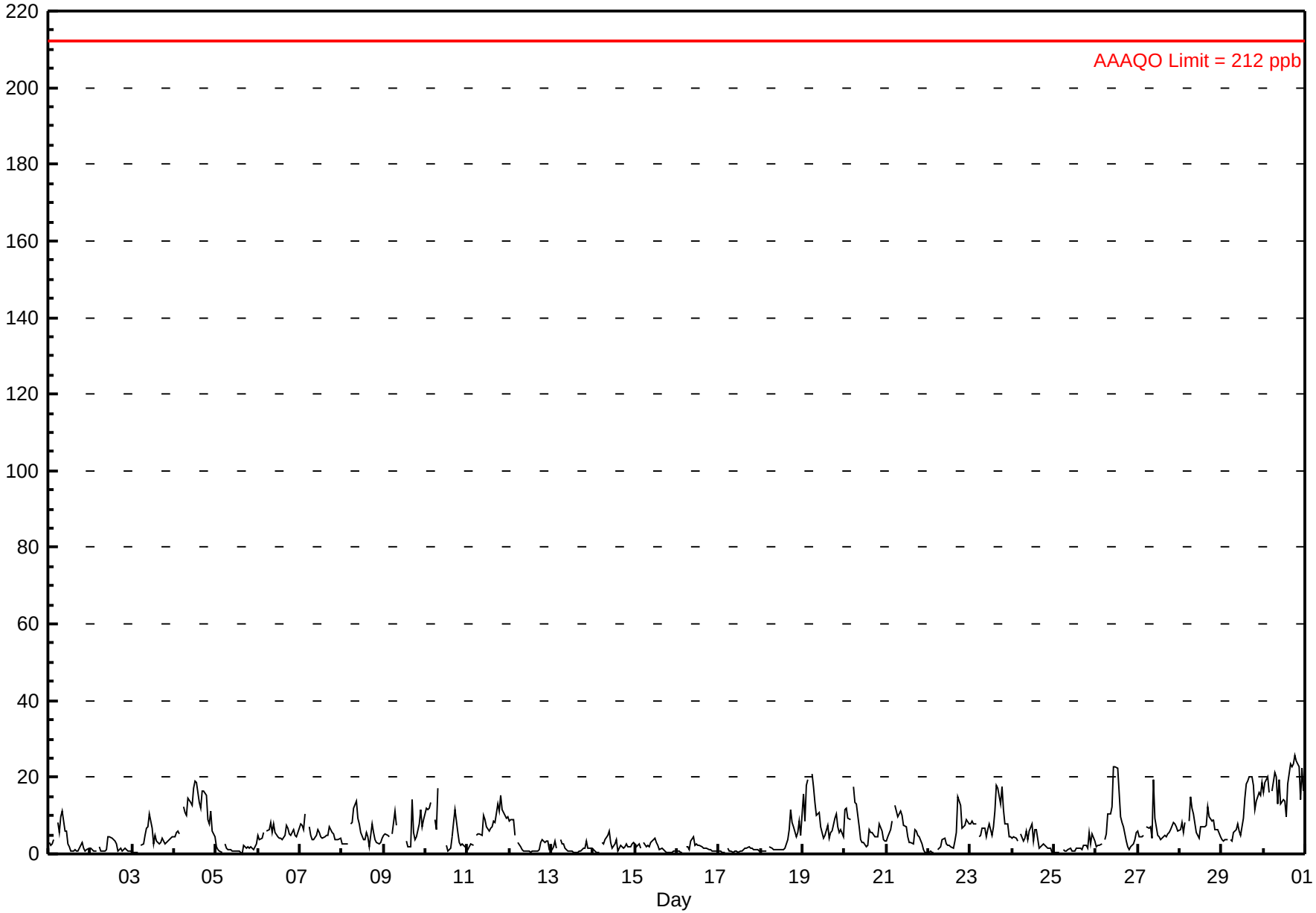
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb 24-hr 106 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - November 2010

Maximum Value: 59.1 ppb on Nov 5 17:00

Maximum Daily Average: 24.4 ppb on Nov 30

Minimum Value: 1 ppb on Nov 22 00:00

Minimum Daily Average: 1.4 ppb on Nov 17

Maximum Diurnal Average: 12.0 ppb at hour 17

Minimum Diurnal Average: 6.3 ppb at hour 2

Monthly Average: 8.48 ppb

Percentiles: P_1 = 0.7 P_{10} = 1.5 Q_1 = 2.9 Median = 5.9 Q_3 = 10.9 P_{90} = 20.7 P_{99} = 31.2

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	3	3	5	A	10	8	19	19	12	11	3	4	1	1	2	2	2	4	6	3	2	2	2	5.6	19.0
2-Nov	3	2	1	2	A	4	2	1	1	5	9	7	7	8	7	7	2	11	2	2	4	2	1	1	4.0	10.5
3-Nov	1	1	1	2	A	5	8	10	14	16	17	11	5	8	4	3	4	8	4	3	4	4	4	5	6.2	16.9
4-Nov	6	7	7	7	A	22	15	16	26	23	17	25	22	23	17	14	20	19	19	13	17	16	15	18	16.7	26.4
5-Nov	3	2	1	1	A	5	3	2	2	1	2	2	2	1	1	2	59	4	4	3	5	4	3	4	5.1	59.1
6-Nov	7	5	5	7	A	8	7	13	10	15	7	6	5	5	4	6	10	9	6	5	8	6	6	8	7.3	15.1
7-Nov	12	9	9	14	A	12	8	4	7	5	10	8	6	8	6	6	9	10	8	7	7	4	4	5	7.8	13.9
8-Nov	3	6	4	3	A	9	10	19	21	10	9	7	5	5	7	6	5	26	8	9	5	3	4	6	8.5	25.8
9-Nov	5	5	5	5	A	7	22	10	C	C	C	C	C	5	3	4	29	11	6	6	10	14	10	27	10.3	29.3
10-Nov	20	16	17	22	A	12	10	33	C	C	C	C	3	1	4	11	19	27	15	7	4	6	4	3	12.3	33.0
11-Nov	2	2	5	6	A	7	7	8	6	18	15	10	7	9	8	11	13	23	25	24	15	12	11	14	11.2	25.5
12-Nov	9	10	10	10	A	6	5	3	2	2	2	1	1	3	1	2	1	5	5	7	5	5	6	2	4.4	9.7
13-Nov	2	4	6	2	A	5	5	5	3	2	1	2	7	3	1	1	2	2	4	6	8	2	3	2	3.4	7.8
14-Nov	1	2	1	2	A	4	3	5	6	9	7	3	4	7	2	3	3	2	3	4	3	4	4	7	3.8	9.0
15-Nov	5	2	4	2	A	6	2	4	5	5	5	7	5	3	2	3	3	1	1	1	1	1	1	1	3.0	6.8
16-Nov	1	1	1	1	A	4	3	2	7	9	3	3	3	3	2	2	2	2	2	1	1	1	1	1	2.4	9.1
17-Nov	1	1	1	1	A	3	1	1	1	1	2	1	1	1	2	3	2	2	2	2	2	1	1	1	1.4	3.1
18-Nov	1	1	1	1	A	3	2	2	2	2	2	2	1	2	2	7	17	19	13	9	7	20	21	6	6.2	20.9
19-Nov	31	19	29	25	A	24	24	23	15	13	9	9	5	7	11	9	8	7	13	14	10	7	9	6	14.2	31.3
20-Nov	16	14	11	10	A	24	27	16	11	5	4	4	3	6	8	7	8	8	8	7	9	8	5	4	9.7	27.4
21-Nov	4	7	9	14	A	20	10	12	13	14	8	8	8	4	4	6	8	7	7	7	4	3	1	1	7.6	20.2
22-Nov	1	1	1	1	A	2	2	3	6	6	4	3	3	3	2	7	10	26	26	12	9	10	10	10	6.8	26.4
23-Nov	11	13	9	9	A	8	8	10	10	6	16	14	8	9	19	22	22	17	20	18	17	9	6	5	12.4	22.4
24-Nov	5	5	5	4	A	6	8	16	12	8	16	11	5	8	11	3	5	5	5	5	3	3	6	2	6.8	16.0
25-Nov	1	2	1	1	A	3	1	1	2	5	2	2	3	3	4	5	3	5	4	5	21	4	11	4	4.1	20.8
26-Nov	2	2	3	3	A	6	10	19	32	22	32	34	27	24	13	13	13	8	3	2	4	5	7	7	12.6	34.4
27-Nov	8	5	6	6	A	8	8	9	6	35	22	6	5	5	5	7	7	6	7	8	14	12	8	7	9.1	34.7
28-Nov	10	11	7	9	A	11	19	16	15	7	11	5	10	9	9	9	18	13	17	12	9	9	11	6	11.0	18.8
29-Nov	4	4	4	4	A	5	8	12	12	29	11	7	22	20	31	25	28	25	21	24	21	25	26	26	17.1	30.8
30-Nov	23	26	26	26	A	21	28	24	17	28	18	19	19	12	25	28	27	28	30	29	27	26	30	25	24.4	30.5
	6.7	6.3	6.4	6.8	--	9.0	9.0	10.5	10.0	11.1	9.7	8.0	7.1	6.9	7.2	7.8	12.0	11.3	9.7	8.6	8.5	7.6	7.7	7.1	Diurnal Average	
	31.3	25.6	29.0	25.5	--	24.3	27.8	33.0	31.7	34.7	32.2	34.4	27.2	24.0	30.8	27.5	59.1	28.1	30.5	29.1	27.5	26.0	30.3	27.1	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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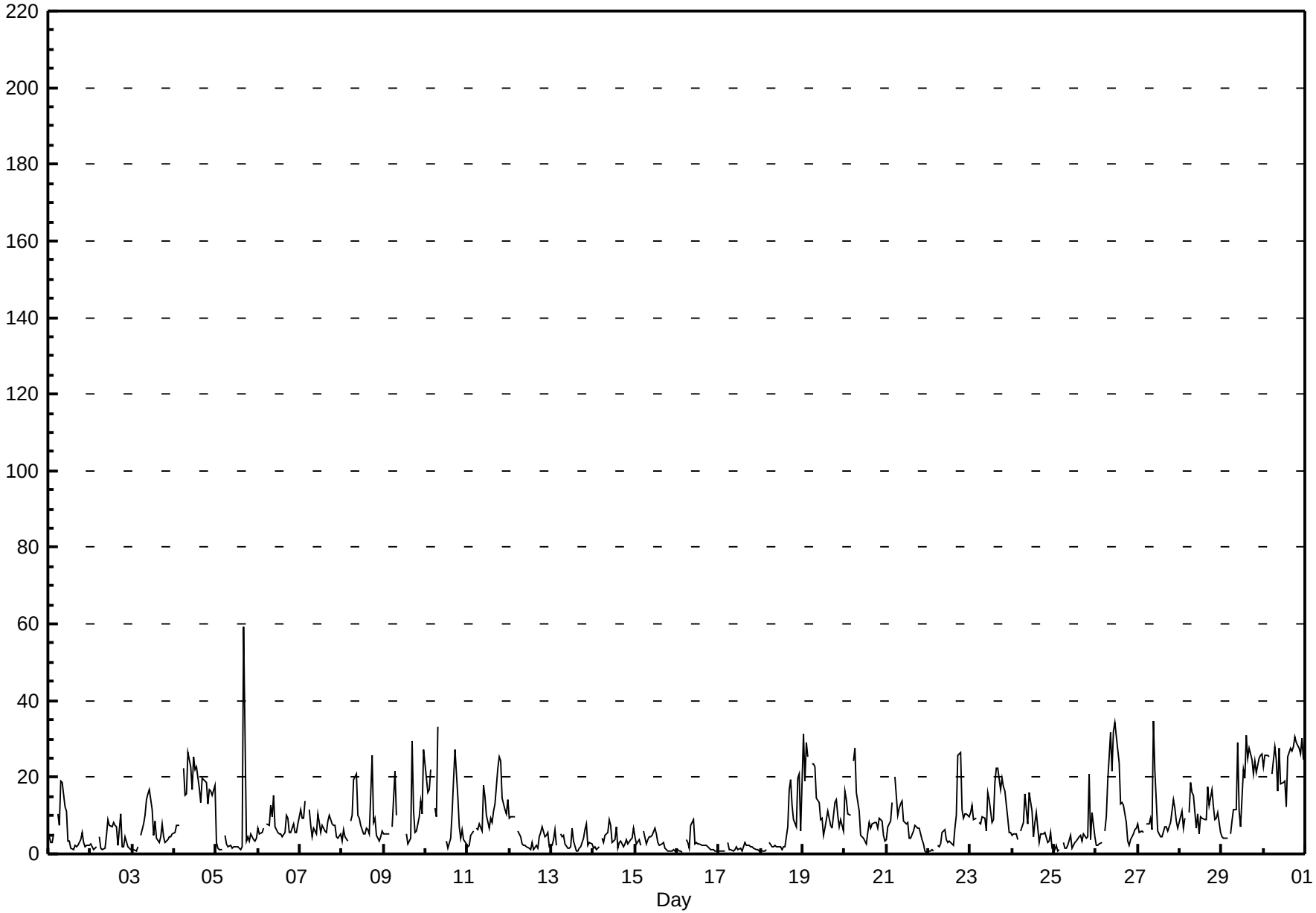
Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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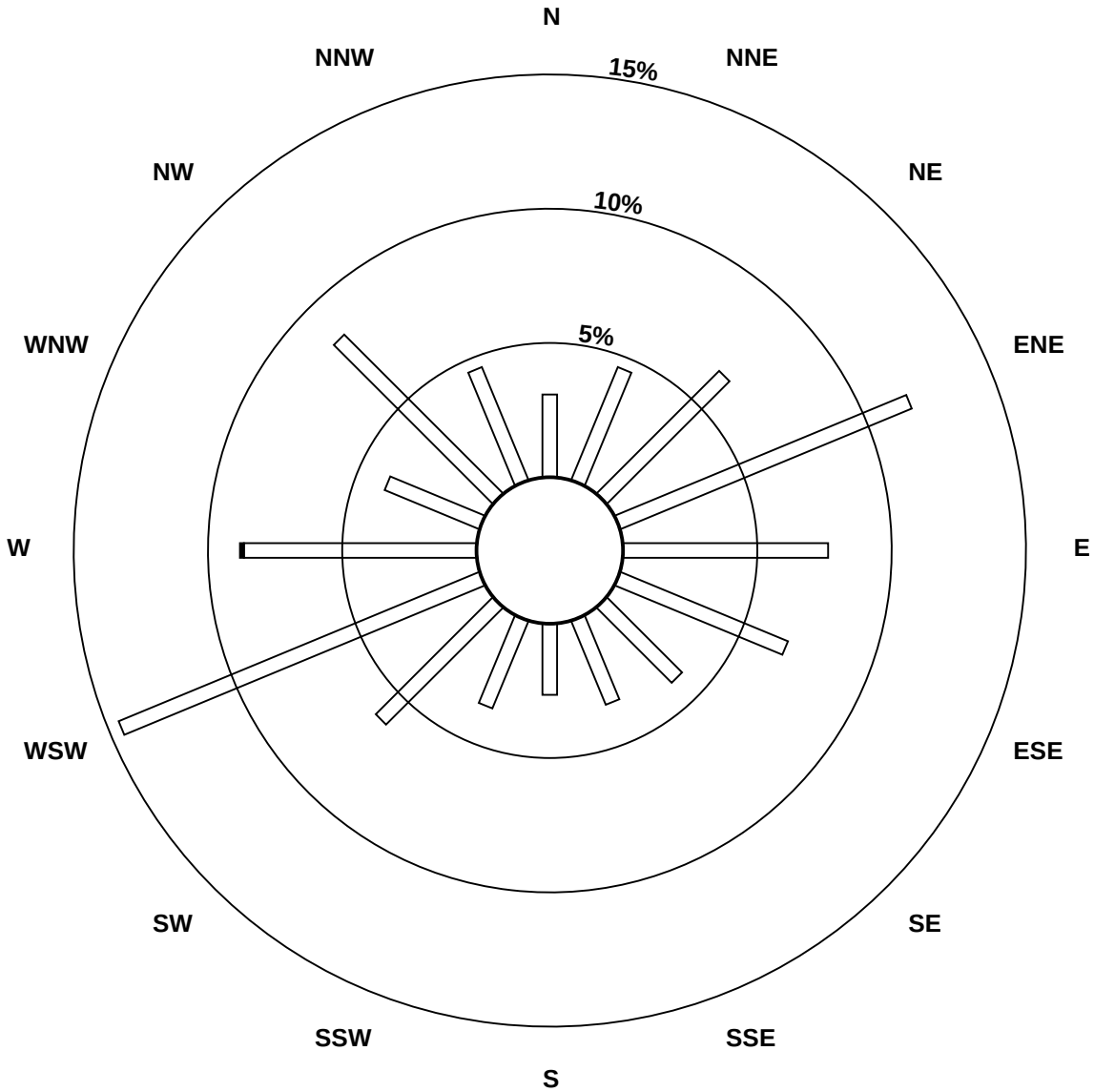
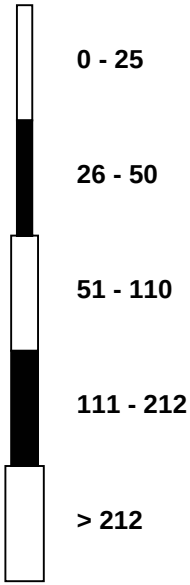
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 21.3 ppb on Nov 4 14:00 Maximum Daily Average: 7.3 ppb on Nov 30

Minimum Value: 0 ppb on Nov 2 04:00 Minimum Daily Average: 0.0 ppb on Nov 17
Maximum Diurnal Average: 3.5 ppb at hour 12 Minimum Diurnal Average: 0.1 ppb at hour 2
Monthly Average: 1.14 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.7 P_{90} = 2.8 P_{99} = 17.0

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	2.2
2-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
3-Nov	0	0	0	0	A	0	0	0	0	2	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0.5	3.1
4-Nov	0	0	0	0	A	0	0	1	8	11	8	12	21	21	10	6	11	8	2	0	0	2	1	1	5.4	21.3
5-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	0.8
6-Nov	0	0	0	0	A	0	0	0	0	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	2.8
7-Nov	0	0	0	1	A	0	0	0	0	1	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0.6	2.2
8-Nov	0	0	0	0	A	0	0	1	1	3	5	3	2	2	3	1	0	1	0	0	0	0	0	0	0.9	5.0
9-Nov	0	0	0	0	A	0	1	0	C	C	C	C	C	1	1	0	2	0	0	0	0	0	0	0	0.3	1.7
10-Nov	1	0	0	2	A	0	0	12	C	C	C	C	1	0	0	1	1	1	0	0	0	0	0	0	1.0	11.9
11-Nov	0	0	0	0	A	0	0	0	0	3	4	4	3	2	2	1	0	0	1	3	0	0	0	1	1.1	4.2
12-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
15-Nov	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
16-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.1
17-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.2	1.1
19-Nov	5	0	6	3	A	2	1	2	1	5	4	4	3	4	5	1	0	0	0	0	0	0	0	0	2.0	5.8
20-Nov	0	0	0	0	A	0	1	0	0	0	1	2	1	1	3	1	0	0	0	0	0	0	0	0	0.5	2.6
21-Nov	0	0	0	0	A	0	0	0	0	2	3	4	2	1	1	1	1	0	0	0	0	0	0	0	0.7	3.9
22-Nov	0	0	0	0	A	0	0	0	0	1	1	2	2	1	1	1	0	1	0	0	0	0	0	0	0.4	2.1
23-Nov	0	0	0	0	A	0	0	0	0	1	5	10	5	8	13	14	4	0	0	0	0	0	0	0	2.7	14.3
24-Nov	0	0	0	0	A	0	0	0	0	0	2	4	1	2	2	0	0	0	0	0	0	0	0	0	0.5	4.0
25-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
26-Nov	0	0	0	0	A	0	0	0	0	2	13	20	14	7	4	2	0	0	0	0	0	0	0	0	2.7	20.3
27-Nov	0	0	0	0	A	0	0	0	0	9	3	2	2	2	1	1	0	0	0	0	0	0	0	0	0.9	8.8
28-Nov	0	0	0	0	A	0	1	0	0	1	2	2	5	5	3	2	1	0	0	0	0	0	0	0	1.1	5.5
29-Nov	0	0	0	0	A	0	0	0	0	4	2	3	13	17	20	8	3	1	0	1	1	1	1	2	3.3	20.5
30-Nov	0	1	1	1	A	0	5	4	1	20	10	16	13	6	15	18	9	8	16	11	3	1	8	4	7.3	19.9
	0.2	0.1	0.3	0.2	--	0.1	0.3	0.7	0.5	2.5	2.7	3.5	3.3	2.9	3.0	2.1	1.2	0.7	0.7	0.5	0.2	0.1	0.3	0.3	Diurnal Average	
	4.6	1.2	5.8	3.2	--	2.1	4.6	11.9	7.8	19.9	12.8	20.3	21.0	21.3	20.5	18.2	10.8	8.2	16.2	10.6	2.9	2.1	7.6	3.6	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

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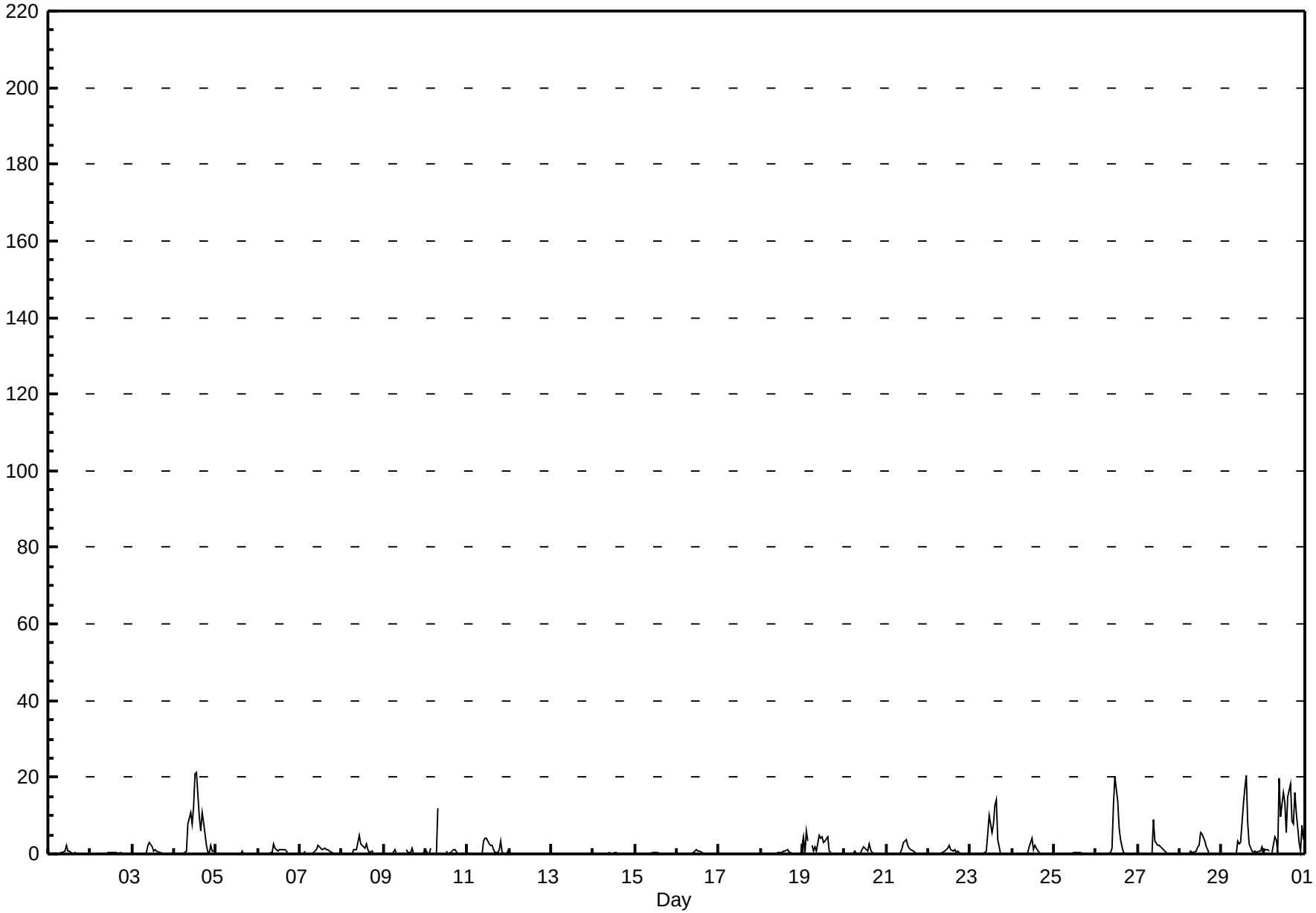
Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - November 2010



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Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - November 2010

Maximum Value: 78.0 ppb on Nov 4 09:00

Maximum Daily Average: 18.8 ppb on Nov 30

Minimum Value: 0 ppb on Nov 12 06:00

Minimum Daily Average: 0.2 ppb on Nov 13

Maximum Diurnal Average: 8.8 ppb at hour 10

Minimum Diurnal Average: 0.4 ppb at hour 2

Monthly Average: 3.14 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.4 $Q_3 = 1.9$ $P_{90} = 7.0$ $P_{99} = 48.1$

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	1	2	1	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	5.0
2-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0.4	1.0
3-Nov	0	0	0	0	A	0	1	1	6	10	7	4	1	2	1	0	1	1	0	0	0	0	0	0	1.6	10.2
4-Nov	0	0	0	0	A	1	1	3	78	53	14	37	39	40	16	9	14	15	7	2	3	10	9	5	15.5	78.0
5-Nov	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0.9	14.8
6-Nov	0	0	0	0	A	0	0	2	1	8	2	1	2	2	2	2	2	0	0	0	0	0	0	0	1.1	8.0
7-Nov	0	0	0	5	A	0	1	0	2	2	5	4	2	3	2	1	4	3	1	1	1	0	0	0	1.6	5.4
8-Nov	0	0	0	0	A	0	0	7	3	5	6	4	3	2	3	2	1	7	0	0	0	0	0	0	2.0	6.9
9-Nov	0	0	0	0	A	0	6	0	C	C	C	C	C	2	1	1	8	3	0	0	0	0	0	3	1.3	7.8
10-Nov	14	1	0	10	A	0	0	49	C	C	C	C	1	0	1	2	3	7	0	0	0	0	0	0	4.8	48.9
11-Nov	0	0	0	0	A	0	0	0	0	11	12	6	4	4	3	2	1	3	12	13	1	1	1	2	3.3	13.1
12-Nov	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
14-Nov	0	0	0	0	A	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	1.6
15-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
16-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.3
17-Nov	0	0	0	0	A	0	0	0	0	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0	0.4	0.9
18-Nov	0	0	0	0	A	0	0	1	1	0	1	1	1	1	1	2	1	1	1	0	1	1	0	0	0.7	2.2
19-Nov	29	1	29	15	A	8	5	14	2	7	6	8	4	5	6	3	1	0	0	0	0	0	0	0	6.3	29.1
20-Nov	0	0	0	0	A	1	11	0	0	1	2	2	2	3	4	2	1	0	0	0	0	0	0	0	1.3	11.0
21-Nov	0	0	0	0	A	1	1	0	1	3	4	5	5	2	2	1	1	0	0	0	0	0	0	0	1.1	4.9
22-Nov	0	0	0	0	A	1	0	0	1	1	1	2	3	2	1	2	1	5	0	0	0	0	0	0	1.0	4.8
23-Nov	0	0	0	0	A	0	0	0	2	2	25	21	11	11	25	20	8	1	1	0	0	0	0	0	5.6	25.3
24-Nov	0	0	0	0	A	0	1	2	1	1	7	7	2	3	3	1	0	0	0	0	0	0	0	0	1.3	7.2
25-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0.4	1.3
26-Nov	0	0	0	0	A	0	0	1	5	6	29	55	20	14	6	3	2	0	0	0	0	0	0	0	6.2	55.3
27-Nov	0	0	0	0	A	0	0	1	0	43	13	3	3	2	2	2	1	1	1	0	0	0	0	0	3.2	43.4
28-Nov	0	0	0	0	A	0	3	2	4	2	6	3	9	8	4	3	3	0	1	0	0	0	0	0	2.2	8.8
29-Nov	0	0	0	0	A	0	1	2	2	37	6	5	53	38	48	12	12	2	0	7	4	3	6	14	11.0	52.7
30-Nov	3	6	6	5	A	1	15	8	4	48	18	32	22	7	36	25	18	19	44	35	8	6	44	22	18.8	48.1
	1.6	0.4	1.3	1.3	--	0.6	1.6	3.3	4.2	8.8	6.2	7.4	6.6	5.3	5.7	3.8	2.9	2.4	2.4	2.1	0.8	0.8	2.1	1.7	Diurnal Average	
	28.8	5.9	29.1	14.9	--	8.4	14.6	48.9	78.0	52.8	28.9	55.3	52.7	39.9	48.1	24.8	18.2	18.8	44.1	35.2	8.4	9.5	44.2	21.6	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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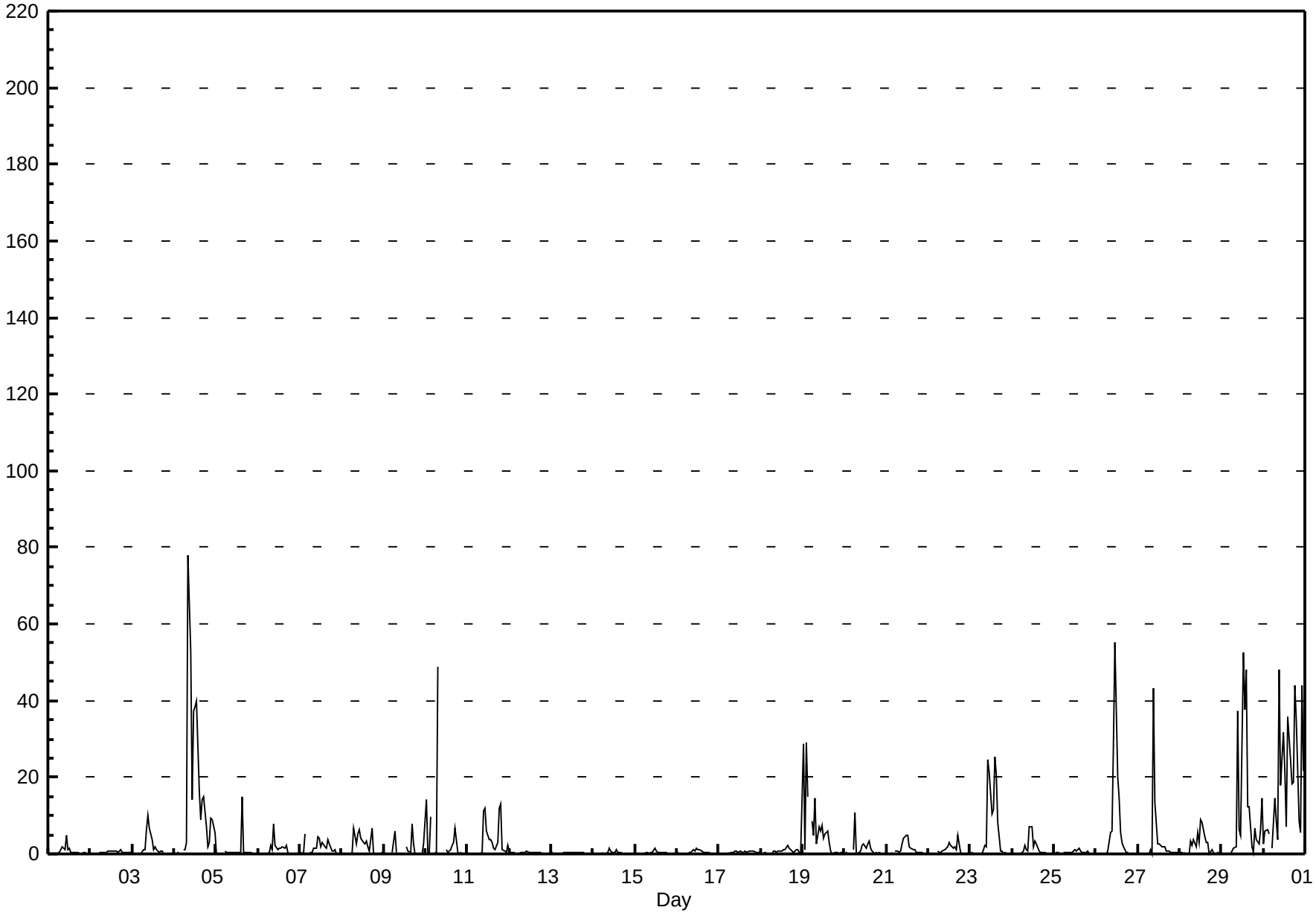
Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 42.6 ppb on Nov 26 12:00
Maximum Daily Average: 25.5 ppb on Nov 30

Minimum Value: 0 ppb on Nov 22 04:00
Maximum Diurnal Average: 8.9 ppb at hour 10
Monthly Average: 6.54 ppb

Minimum Daily Average: 1.0 ppb on Nov 17
Minimum Diurnal Average: 4.5 ppb at hour 2
Percentiles: P_1 = 0.4 P_{10} = 0.8 Q_1 = 1.7 Median = 4.4 Q_3 = 8.4 P_{90} = 14.6 P_{99} = 38.0

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	3	4	A	9	6	10	12	7	8	3	3	1	1	2	1	1	2	3	2	1	1	2	3.8	12.0
2-Nov	1	1	1	1	A	2	1	1	1	1	5	5	5	4	4	3	1	2	1	1	2	1	1	1	1.9	5.1
3-Nov	0	1	0	1	A	2	3	5	7	10	14	9	4	6	4	3	3	4	4	3	3	4	4	5	4.3	13.6
4-Nov	5	6	6	5	A	13	11	11	23	25	21	30	41	40	23	18	28	25	18	10	8	14	7	5	17.1	40.8
5-Nov	2	1	1	0	A	3	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	2	3	1.4	2.9
6-Nov	5	4	4	6	A	6	7	9	6	11	7	5	5	5	5	6	8	7	5	5	7	5	5	6	6.1	10.9
7-Nov	8	8	7	12	A	7	5	4	4	6	9	7	6	6	6	6	6	8	6	5	4	4	4	4	6.2	11.7
8-Nov	3	3	3	3	A	8	9	13	15	13	13	8	6	5	8	6	2	9	6	4	3	3	3	4	6.5	15.3
9-Nov	5	5	5	5	A	5	12	8	C	C	C	C	C	4	3	2	15	6	4	4	8	11	7	9	6.6	15.5
10-Nov	13	11	12	15	A	9	6	29	C	C	C	C	3	1	2	5	9	12	6	3	2	3	2	1	7.5	28.7
11-Nov	1	2	3	2	A	5	5	5	5	13	13	11	9	9	9	9	8	13	12	18	12	10	9	10	8.4	18.3
12-Nov	8	9	9	5	A	3	2	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	3	1	2.7	8.8
13-Nov	1	2	3	2	A	4	2	3	1	1	1	1	1	1	0	1	1	1	2	1	3	1	1	1	1.5	3.5
14-Nov	1	1	1	1	A	3	3	4	5	6	3	1	3	4	1	2	2	2	2	3	2	2	3	3	2.4	6.0
15-Nov	3	2	2	2	A	3	2	2	2	3	4	5	4	2	1	1	1	1	1	0	0	0	1	1	1.9	4.6
16-Nov	1	1	1	0	A	2	2	1	4	5	3	4	3	3	2	2	2	2	1	1	1	1	1	1	1.8	4.8
17-Nov	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1.0	1.9
18-Nov	1	1	1	1	A	2	1	1	1	1	1	2	1	2	2	5	7	12	8	7	5	5	8	5	3.5	11.5
19-Nov	20	8	23	22	A	22	18	15	10	15	11	10	7	8	12	5	6	6	9	10	7	6	6	4	11.4	23.4
20-Nov	11	12	9	9	A	17	14	13	7	4	4	5	3	3	9	7	6	4	4	4	8	6	4	3	7.2	17.4
21-Nov	3	5	6	8	A	13	9	10	11	11	10	11	6	4	4	3	7	6	5	4	3	1	0	0	6.2	12.6
22-Nov	0	1	0	0	A	1	1	2	4	5	4	4	4	3	2	4	6	15	12	6	7	7	9	8	4.7	15.3
23-Nov	8	8	8	8	A	4	5	7	7	5	11	18	10	15	24	32	21	13	17	11	8	8	4	4	11.1	31.7
24-Nov	4	4	4	3	A	5	3	4	6	4	8	12	4	9	8	2	2	2	3	2	1	1	2	1	4.1	11.6
25-Nov	0	0	0	0	A	1	1	1	1	2	1	1	1	2	2	2	1	2	2	2	6	3	5	3	1.8	5.5
26-Nov	2	2	2	3	A	4	5	10	11	14	35	43	36	23	13	10	8	3	2	1	2	3	4	5	10.4	42.6
27-Nov	6	4	4	5	A	7	7	7	4	28	12	7	6	5	5	6	5	5	5	6	8	8	7	6	7.1	27.9
28-Nov	6	8	5	8	A	8	15	12	11	6	7	6	12	12	10	9	13	9	9	9	6	6	6	4	8.7	15.3
29-Nov	4	3	4	4	A	4	3	6	6	11	8	8	22	31	38	27	22	21	18	12	14	16	16	20	13.9	38.2
30-Nov	16	20	21	17	A	16	25	24	13	39	23	30	27	15	33	41	31	31	42	34	25	15	30	20	25.5	41.5
	4.7	4.5	5.0	5.0	--	6.3	6.2	7.3	6.4	8.9	8.5	8.9	8.1	7.6	7.8	7.4	7.5	7.6	7.0	6.0	5.4	5.0	5.2	4.7	Diurnal Average	
	19.7	19.6	23.4	22.3	--	22.3	25.3	28.7	22.6	39.0	35.2	42.6	40.8	40.5	38.2	41.3	30.9	31.0	41.5	34.3	25.1	16.5	29.5	20.3	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

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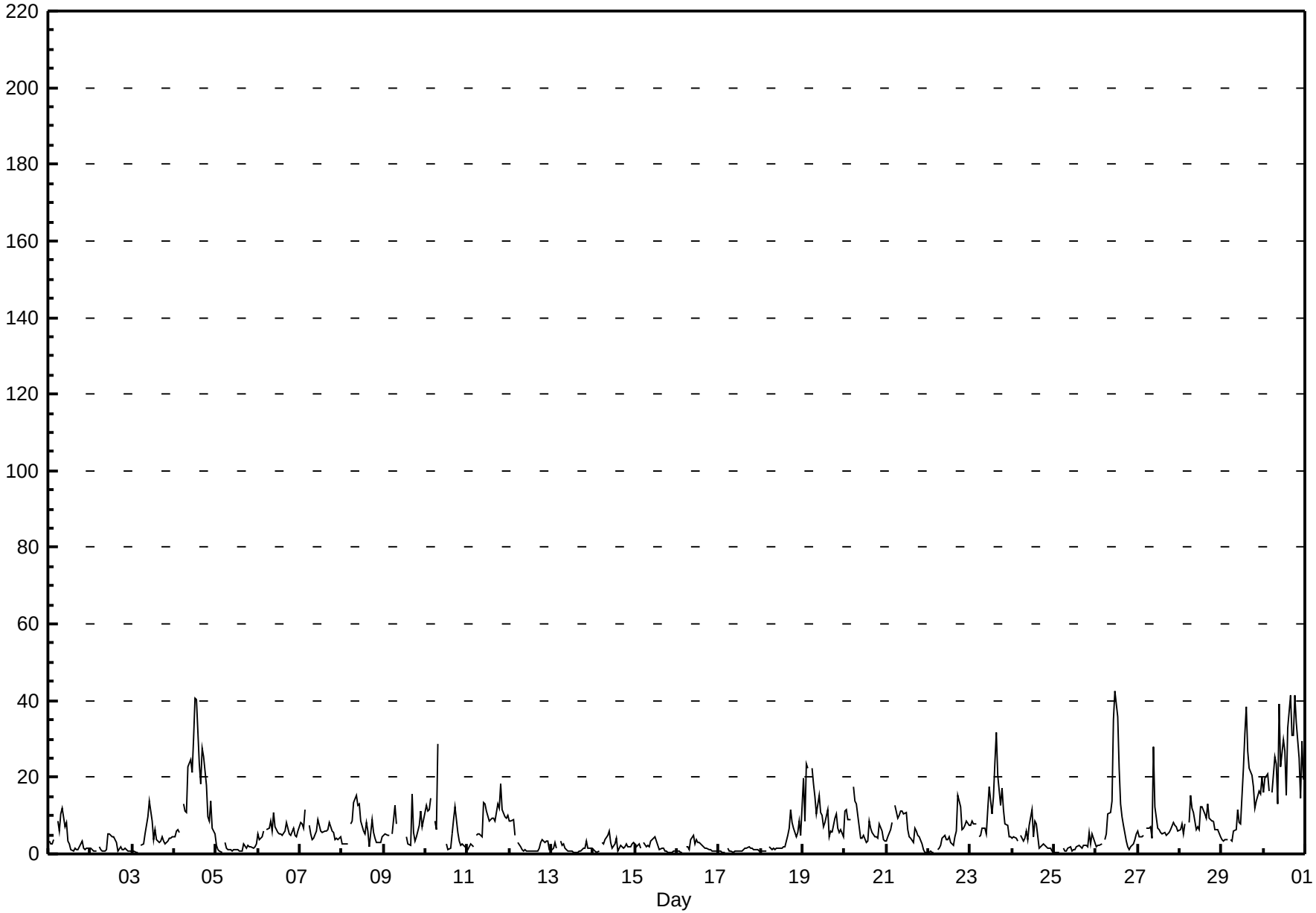
Peace Air Shed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - November 2010

Maximum Value: 99.7 ppb on Nov 4 09:00

Maximum Daily Average: 42.0 ppb on Nov 30

Minimum Value: 1 ppb on Nov 22 00:00

Minimum Daily Average: 1.6 ppb on Nov 17

Maximum Diurnal Average: 19.5 ppb at hour 10

Minimum Diurnal Average: 6.5 ppb at hour 2

Monthly Average: 11.32 ppb

Percentiles: P_1 = 0.7 P_{10} = 1.8 Q_1 = 3.2 Median = 6.5 Q_3 = 12.6 P_{90} = 26.9 P_{99} = 75.2

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	39
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	3	3	5	A	11	8	21	19	14	17	5	5	2	2	3	2	3	4	6	3	2	2	2	6.4	20.6
2-Nov	3	2	1	2	A	5	2	1	2	5	10	8	8	9	8	8	3	12	2	2	5	2	2	1	4.5	11.8
3-Nov	1	1	1	2	A	5	9	11	21	26	24	16	6	11	6	4	5	9	4	3	4	5	4	5	7.9	26.3
4-Nov	6	8	8	8	A	24	16	18	100	75	31	61	61	63	34	23	34	34	25	15	20	26	25	23	32.0	99.7
5-Nov	3	2	1	1	A	5	3	2	3	2	2	2	2	2	1	3	61	4	5	4	5	4	4	4	5.4	61.1
6-Nov	7	5	6	7	A	8	8	15	10	22	9	7	7	7	6	6	12	10	6	6	8	6	6	8	8.4	22.4
7-Nov	12	10	10	20	A	12	8	5	9	7	15	13	8	11	8	7	13	13	9	8	9	4	4	5	9.5	19.7
8-Nov	4	6	5	4	A	9	10	27	24	14	15	12	8	8	10	8	6	33	9	10	5	3	5	7	10.5	33.2
9-Nov	6	6	5	5	A	8	27	10	C	C	C	C	C	7	3	5	36	11	6	6	9	14	10	29	11.3	36.4
10-Nov	23	16	16	29	A	12	10	81	C	C	C	C	5	2	5	13	22	33	15	7	4	6	4	3	16.0	81.0
11-Nov	2	2	5	6	A	7	6	8	6	29	27	16	10	13	11	12	14	25	37	36	16	12	11	15	14.0	36.6
12-Nov	9	10	9	10	A	6	5	3	2	3	3	2	1	3	2	2	2	5	6	7	4	5	6	2	4.6	9.7
13-Nov	2	4	6	2	A	5	4	5	3	2	2	2	7	3	1	1	2	2	4	6	8	2	3	2	3.4	7.7
14-Nov	1	2	1	2	A	4	3	5	6	11	8	3	4	8	2	3	4	2	3	4	3	4	4	7	4.0	10.5
15-Nov	4	2	4	2	A	6	3	4	5	5	5	8	6	3	2	3	3	1	1	1	1	1	1	1	3.1	8.0
16-Nov	1	1	1	1	A	4	3	2	7	10	3	4	4	4	3	2	2	2	2	1	1	1	1	1	2.7	9.9
17-Nov	1	1	1	1	A	3	1	1	1	1	3	1	2	1	2	4	2	3	2	2	2	1	1	1	1.6	3.8
18-Nov	1	1	1	1	A	3	2	3	3	2	3	2	2	3	3	9	18	20	13	9	8	19	21	6	6.6	20.6
19-Nov	58	20	57	37	A	31	26	36	16	19	15	17	9	12	16	12	8	7	13	14	10	7	9	6	19.7	58.4
20-Nov	16	14	10	10	A	25	37	16	11	5	6	6	4	8	11	8	8	8	8	6	9	8	5	3	10.6	37.0
21-Nov	4	7	8	13	A	20	11	12	13	16	12	13	13	6	5	7	9	7	7	7	4	2	1	1	8.5	19.8
22-Nov	1	1	1	1	A	3	2	3	6	7	5	5	6	5	3	8	10	28	26	11	9	10	10	9	7.4	27.6
23-Nov	11	13	9	9	A	8	8	10	11	8	40	34	18	19	44	42	30	17	20	17	16	9	6	5	17.5	43.5
24-Nov	5	5	5	4	A	6	9	17	12	8	22	18	6	11	13	3	6	5	5	6	3	3	6	2	7.8	22.5
25-Nov	1	2	1	1	A	3	2	2	2	5	2	3	4	4	6	6	4	5	4	5	20	4	11	4	4.4	20.4
26-Nov	2	2	3	3	A	6	9	19	36	27	60	89	46	37	18	16	14	8	3	2	4	5	6	7	18.3	89.1
27-Nov	8	5	6	6	A	8	8	10	6	77	35	9	8	7	6	8	8	6	7	8	14	12	8	7	11.9	76.8
28-Nov	10	11	7	9	A	11	20	18	19	9	16	8	18	17	13	12	20	12	17	12	9	9	11	5	12.7	19.9
29-Nov	4	4	4	4	A	5	9	12	13	65	17	12	73	54	78	36	39	26	21	30	25	26	31	39	27.4	77.6
30-Nov	25	30	31	30	A	21	42	32	18	75	36	49	40	19	60	50	43	45	73	63	34	31	72	44	42.0	75.2
	7.8	6.5	7.5	7.7	--	9.4	10.4	13.6	13.7	19.5	15.8	15.2	13.5	11.9	12.7	10.8	14.6	13.2	11.9	10.4	9.1	8.2	9.6	8.5	Diurnal Average	
	58.4	30.0	57.2	36.8	--	30.7	41.5	81.0	99.7	76.8	59.5	89.1	73.3	63.1	77.6	50.3	61.1	44.9	73.4	63.4	34.2	31.0	72.5	43.9	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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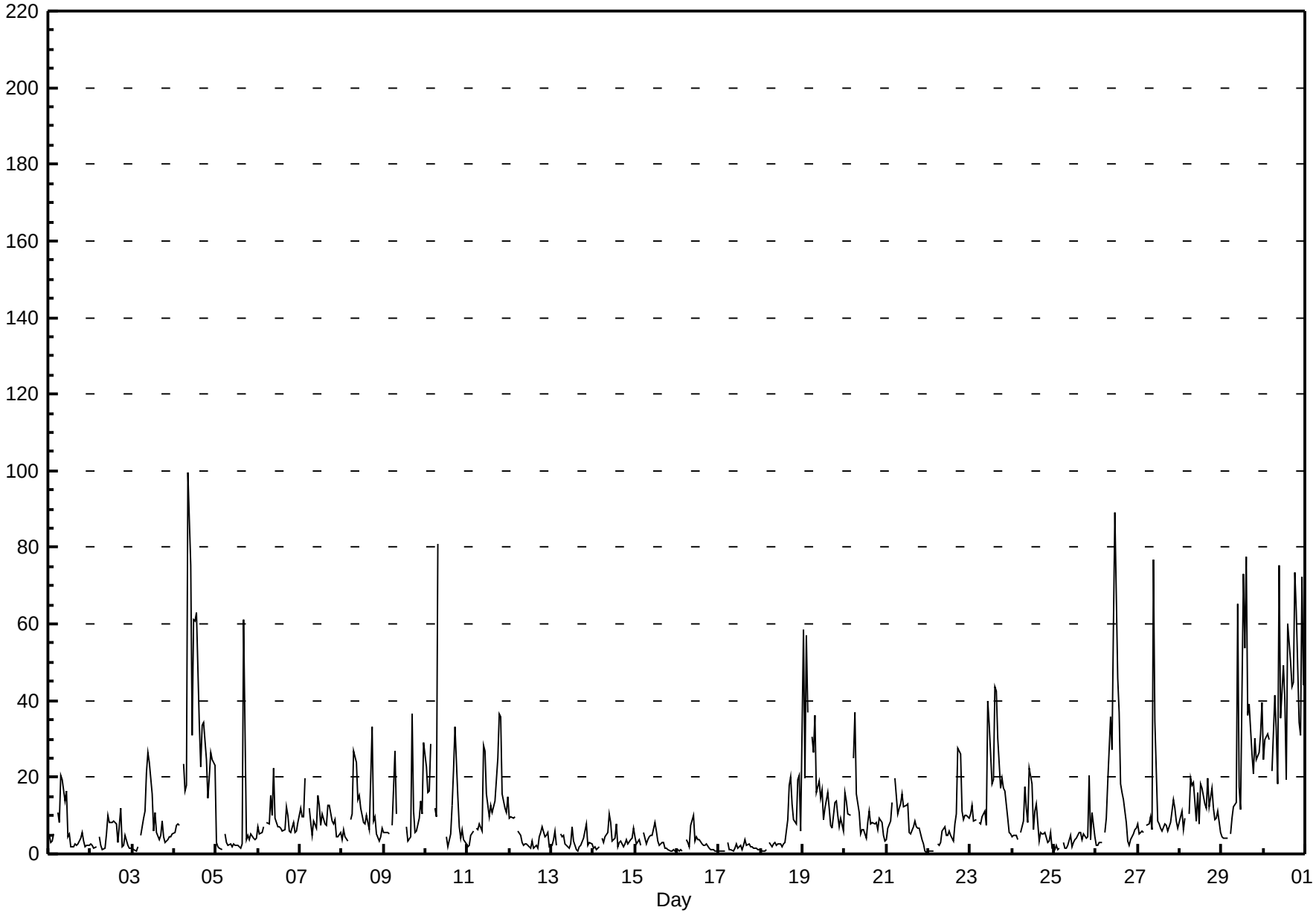
Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 39.6 ppb on Nov 1 17:00 Maximum Daily Average: 35.3 ppb on Nov 25

Minimum Value: 1 ppb on Nov 4 18:00 Minimum Daily Average: 6.6 ppb on Nov 30
Maximum Diurnal Average: 26.1 ppb at hour 16 Minimum Diurnal Average: 22.0 ppb at hour 8
Monthly Average: 24.59 ppb Percentiles: P_1 = 3.1 P_{10} = 11.0 Q_1 = 18.8 Median = 26.4 Q_3 = 31.4 P_{90} = 34.6 P_{99} = 36.8

Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	30	31	29	25	A	21	25	23	22	28	28	32	35	38	39	37	40	40	35	33	36	39	34	33	31.9	39.6
2-Nov	33	36	35	36	A	36	36	36	36	35	30	30	30	31	32	34	36	35	36	35	32	35	35	36	34.1	36.3
3-Nov	36	37	36	36	A	35	31	26	26	20	20	28	32	31	31	32	30	29	30	30	28	27	27	26	29.8	36.5
4-Nov	24	23	23	23	A	10	9	11	6	11	9	9	5	4	6	8	4	1	3	14	15	10	18	20	11.6	24.5
5-Nov	23	28	35	37	A	34	32	31	32	34	33	33	33	34	34	35	34	32	31	29	28	29	28	26	31.5	36.8
6-Nov	25	25	24	23	A	24	23	14	21	19	21	22	23	23	24	23	21	23	24	22	19	20	20	16	21.7	25.3
7-Nov	12	12	12	5	A	9	12	14	15	10	10	12	15	13	12	10	10	6	9	14	20	21	21	21	12.8	21.5
8-Nov	25	26	25	25	A	18	15	11	12	15	15	17	19	19	19	22	32	26	29	31	30	29	28	27	22.5	31.6
9-Nov	26	25	25	24	A	25	13	16	13	14	15	C	C	C	28	30	18	23	27	25	21	18	23	22	21.6	30.3
10-Nov	12	15	15	11	A	14	16	8	12	20	19	20	26	34	36	33	29	26	30	31	32	31	31	32	23.1	35.8
11-Nov	32	29	30	30	A	28	23	21	23	13	16	16	16	15	18	21	21	15	15	5	7	9	8	6	18.2	32.4
12-Nov	7	7	10	18	A	26	27	30	31	32	33	34	35	35	35	34	35	34	31	30	31	30	31	33	28.2	35.2
13-Nov	33	33	29	31	A	31	31	33	33	34	34	34	34	34	33	33	33	32	31	31	27	31	33	32	32.2	34.5
14-Nov	32	32	32	31	A	27	27	26	26	22	23	22	19	21	26	24	23	26	29	29	32	33	31	28	27.0	33.1
15-Nov	28	27	27	30	A	25	27	30	35	34	35	34	33	32	32	30	29	30	31	31	32	33	32	31	30.8	34.9
16-Nov	30	30	31	31	A	30	30	30	27	26	30	30	31	31	32	31	28	28	30	30	30	29	31	32	29.9	32.3
17-Nov	32	32	33	32	A	30	30	31	30	30	30	31	31	33	33	32	33	32	32	33	33	33	33	34	31.9	33.7
18-Nov	33	33	32	32	A	30	30	30	30	30	30	30	30	30	30	28	26	20	22	24	25	24	21	24	28.1	32.9
19-Nov	13	17	8	5	A	3	6	9	11	10	16	18	20	21	18	29	27	26	22	20	23	24	22	23	17.2	29.4
20-Nov	16	16	18	18	A	11	14	16	24	27	28	29	31	30	27	28	27	28	28	27	23	24	26	27	23.7	30.8
21-Nov	27	25	21	17	A	14	16	16	15	16	18	20	24	27	28	28	23	22	21	21	23	27	30	31	22.2	31.3
22-Nov	33	35	36	35	A	33	31	28	26	26	28	28	28	30	30	28	27	18	19	25	25	23	21	22	27.6	35.7
23-Nov	22	21	22	23	A	26	25	23	23	26	24	22	24	22	20	13	13	17	13	20	23	23	28	28	21.6	28.3
24-Nov	29	28	29	31	A	30	32	30	28	32	29	28	33	29	30	37	36	35	35	35	35	35	35	36	32.0	36.5
25-Nov	37	36	36	36	A	37	38	37	36	35	37	37	37	36	35	35	36	36	36	37	32	33	30	31	35.3	37.7
26-Nov	34	35	34	35	A	34	31	24	22	20	9	9	9	17	23	25	26	32	34	34	33	32	31	29	26.6	35.0
27-Nov	28	29	29	28	A	24	23	23	27	10	16	19	21	23	23	22	22	21	20	19	18	18	18	19	21.8	29.4
28-Nov	18	16	18	13	A	13	6	9	10	16	17	19	17	19	19	20	16	17	18	18	21	21	21	24	16.8	24.2
29-Nov	25	25	24	24	A	25	25	23	22	22	24	25	20	16	13	15	14	12	13	19	16	13	14	9	19.0	25.1
30-Nov	10	7	5	8	A	7	3	3	10	4	8	8	10	13	9	6	4	2	2	2	4	12	5	9	6.6	13.4
	25.6	25.7	25.5	25.1	--	23.8	22.9	22.0	22.8	22.4	22.9	23.9	24.8	25.6	25.9	26.1	25.0	24.1	24.5	25.1	25.2	25.6	25.6	25.7	Diurnal Average	
	37.0	36.5	36.4	36.8	--	36.7	37.7	36.5	35.8	35.4	36.8	36.8	36.6	38.2	38.9	36.6	39.6	39.6	36.0	36.8	35.8	39.2	35.2	36.2	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

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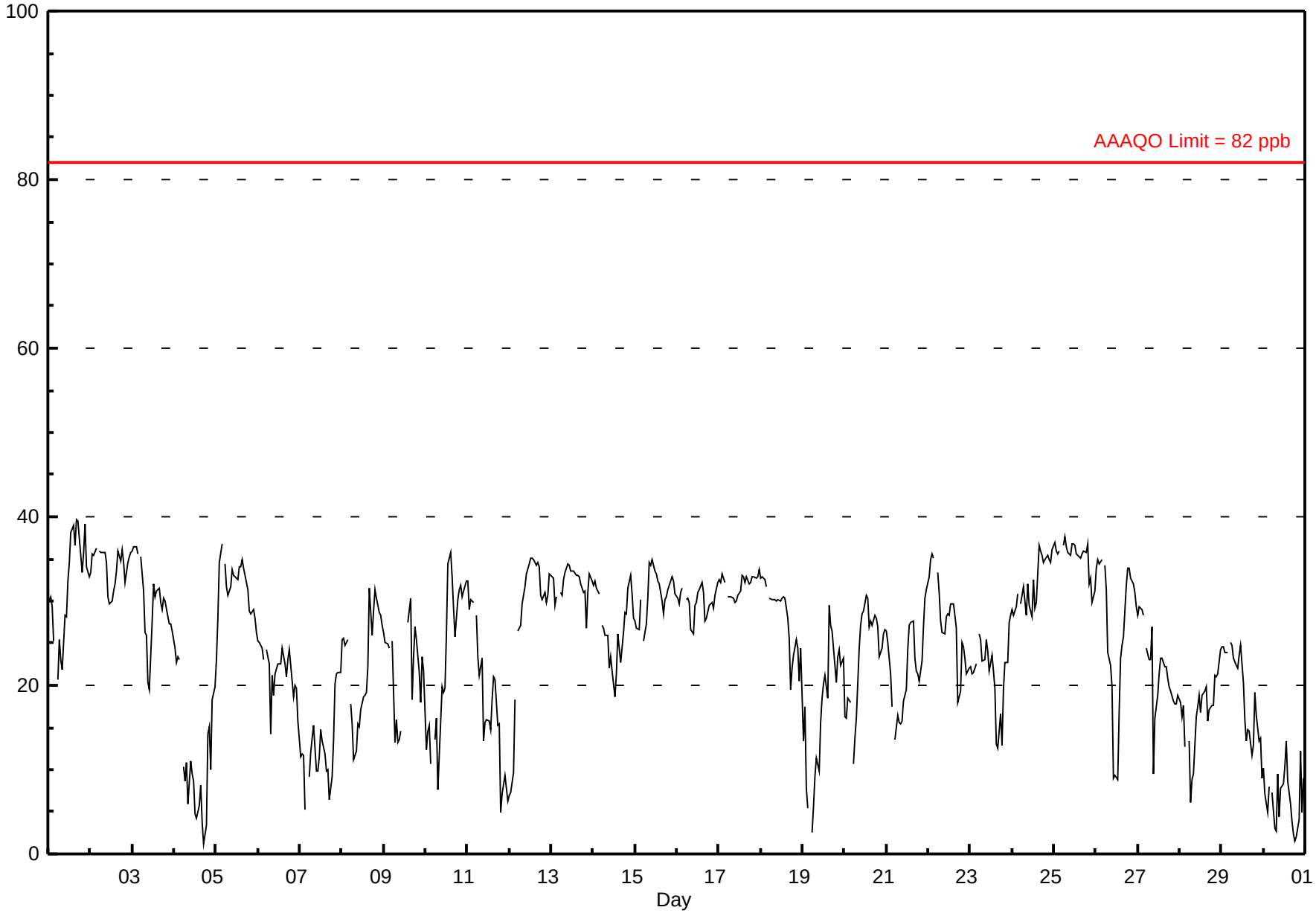
Peace Air Shed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - November 2010

Maximum Value: 43.0 ppb on Nov 1 21:00

Maximum Daily Average: 36.8 ppb on Nov 25

Minimum Value: 3 ppb on Nov 4 18:00

Minimum Daily Average: 11.3 ppb on Nov 30

Maximum Diurnal Average: 28.6 ppb at hour 15

Minimum Diurnal Average: 25.7 ppb at hour 8

Monthly Average: 27.36 ppb

Percentiles: P_1 = 7.4 P_{10} = 15.6 Q_1 = 22.6 Median = 28.9 Q_3 = 33.6 P_{90} = 36.3 P_{99} = 39.3

Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	33	33	31	28	A	23	28	28	28	31	33	34	40	39	40	39	41	41	39	35	43	43	37	34	34.8	43.0
2-Nov	35	37	37	38	A	37	36	37	37	36	36	36	36	37	38	38	37	37	37	36	36	35	36	37	36.6	38.3
3-Nov	37	37	37	37	A	37	34	29	33	31	29	33	34	32	34	33	32	31	32	32	30	29	29	28	32.5	37.3
4-Nov	27	24	25	26	A	15	14	20	14	18	18	16	7	6	8	9	7	3	7	20	20	22	24	23	16.3	27.0
5-Nov	25	35	36	38	A	36	33	32	35	35	34	34	35	36	36	36	36	34	33	31	30	31	31	30	33.7	38.5
6-Nov	28	28	26	25	A	27	25	25	25	26	24	25	24	25	26	25	24	24	26	24	21	21	21	19	24.4	28.0
7-Nov	15	13	13	13	A	17	20	15	18	13	12	15	16	16	14	12	13	8	15	19	23	24	23	27	16.2	26.5
8-Nov	29	31	27	29	A	25	18	19	19	19	18	21	20	21	22	26	34	32	31	35	34	32	30	29	26.0	35.0
9-Nov	28	26	26	26	A	29	27	20	16	19	19	C	C	C	30	33	29	26	29	27	25	20	25	27	25.3	32.8
10-Nov	20	19	19	22	A	16	23	22	20	22	22	23	32	37	38	38	37	34	34	34	33	32	32	34	27.9	37.7
11-Nov	34	33	33	33	A	30	28	23	24	24	22	18	19	16	25	24	24	18	22	10	9	14	9	12	21.9	33.7
12-Nov	9	9	12	24	A	27	28	31	32	33	35	36	36	36	36	35	36	36	34	34	34	32	33	34	30.1	36.3
13-Nov	35	34	33	33	A	33	36	36	36	36	35	35	35	34	34	35	34	33	33	33	31	36	35	34	34.2	36.2
14-Nov	35	35	33	32	A	30	27	28	27	27	26	26	23	27	27	27	25	28	30	30	34	35	34	33	29.4	34.9
15-Nov	32	29	29	32	A	28	30	35	37	36	36	35	34	34	33	32	30	32	32	32	34	34	34	32	32.7	36.7
16-Nov	32	30	32	33	A	32	32	31	30	29	31	31	32	32	33	32	29	29	31	31	31	30	32	33	31.2	33.5
17-Nov	33	33	34	35	A	32	31	32	32	32	31	31	32	34	34	33	34	33	33	34	34	33	34	34	32.9	34.7
18-Nov	33	34	33	32	A	31	31	31	31	31	31	31	31	31	31	30	30	23	24	26	27	28	26	26	29.6	33.7
19-Nov	24	21	17	14	A	7	13	19	14	14	19	20	21	23	21	31	29	27	25	22	24	25	25	24	20.8	30.8
20-Nov	23	18	19	20	A	15	18	20	27	29	29	30	32	31	29	29	29	31	30	29	25	26	27	27	25.9	32.4
21-Nov	27	27	25	23	A	17	18	17	17	19	20	21	26	28	29	29	24	23	22	22	24	29	31	32	23.8	31.8
22-Nov	34	36	37	36	A	34	33	28	28	27	29	29	30	31	31	30	29	29	24	30	26	25	23	23	29.7	36.5
23-Nov	24	23	23	25	A	27	27	25	25	27	27	29	31	26	33	16	17	19	16	27	26	25	30	29	25.0	32.7
24-Nov	30	30	31	32	A	31	33	34	31	34	34	33	35	33	37	38	37	37	36	36	36	36	36	38	34.3	37.8
25-Nov	38	37	36	36	A	38	38	37	37	37	38	37	38	37	37	36	37	38	38	38	37	34	33	34	36.8	38.3
26-Nov	35	36	36	36	A	35	35	27	29	29	21	20	13	30	28	28	32	35	35	35	34	33	33	32	30.7	35.7
27-Nov	30	31	30	30	A	27	24	25	29	26	19	21	24	26	25	24	23	22	21	21	21	20	20	20	24.2	30.7
28-Nov	20	18	19	16	A	15	13	13	14	18	19	20	20	20	21	21	20	20	21	23	26	26	24	25	19.6	26.2
29-Nov	25	25	25	25	A	26	26	25	24	26	27	27	27	21	20	18	19	16	21	24	26	20	18	13	22.7	27.0
30-Nov	14	12	9	14	A	9	6	9	11	14	11	10	13	15	13	9	8	8	8	7	12	18	15	16	11.3	18.2
	28.1	27.8	27.4	28.0	--	26.1	26.2	25.7	25.9	26.5	26.1	26.8	27.4	28.1	28.6	28.1	27.9	26.9	27.3	27.9	28.2	28.4	27.9	28.0	Diurnal Average	
	37.8	37.5	37.3	38.5	--	37.8	38.3	37.3	37.0	36.8	37.8	37.3	39.6	39.4	40.1	39.1	41.5	40.9	39.0	38.2	43.0	42.5	36.5	37.6	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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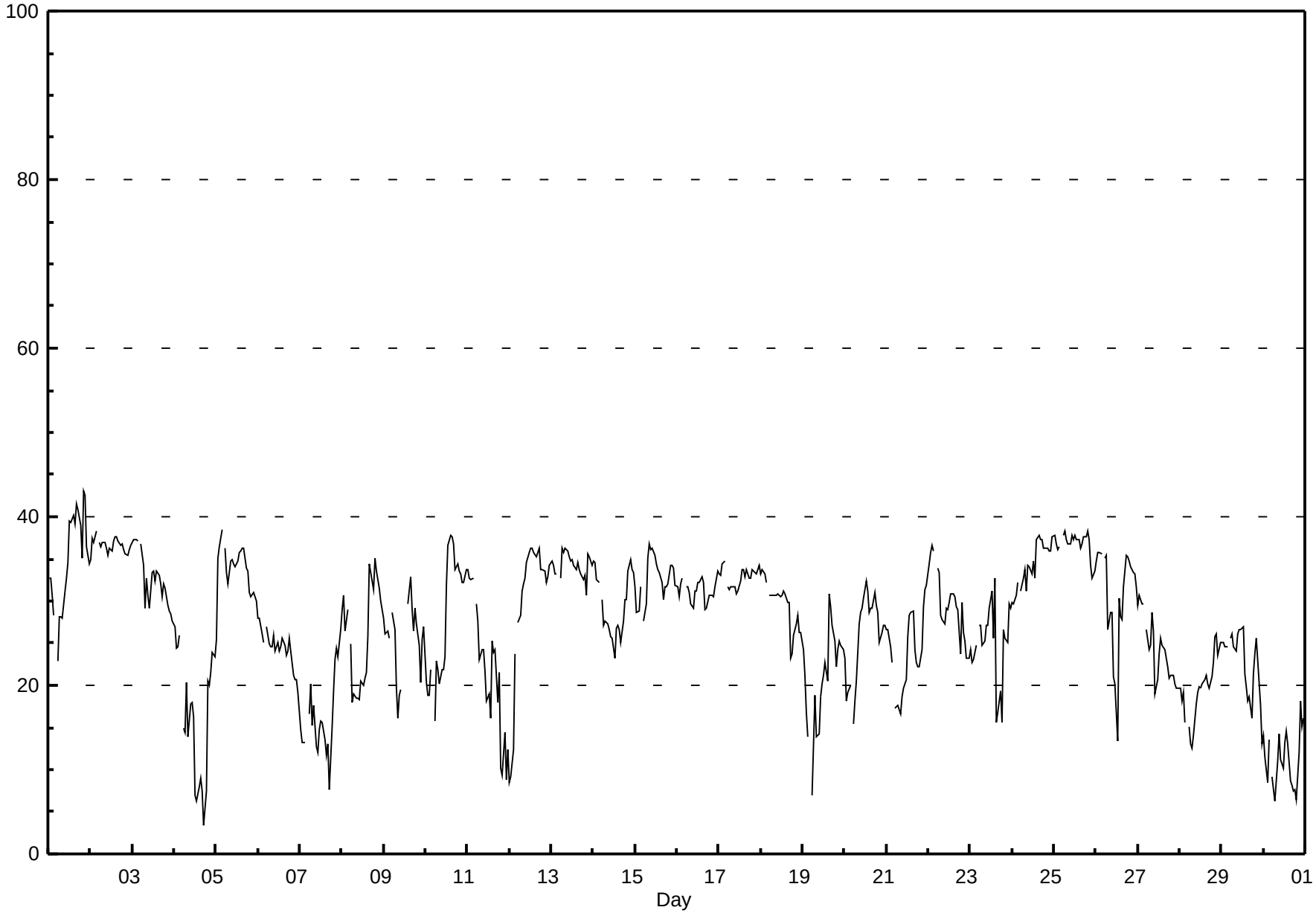
Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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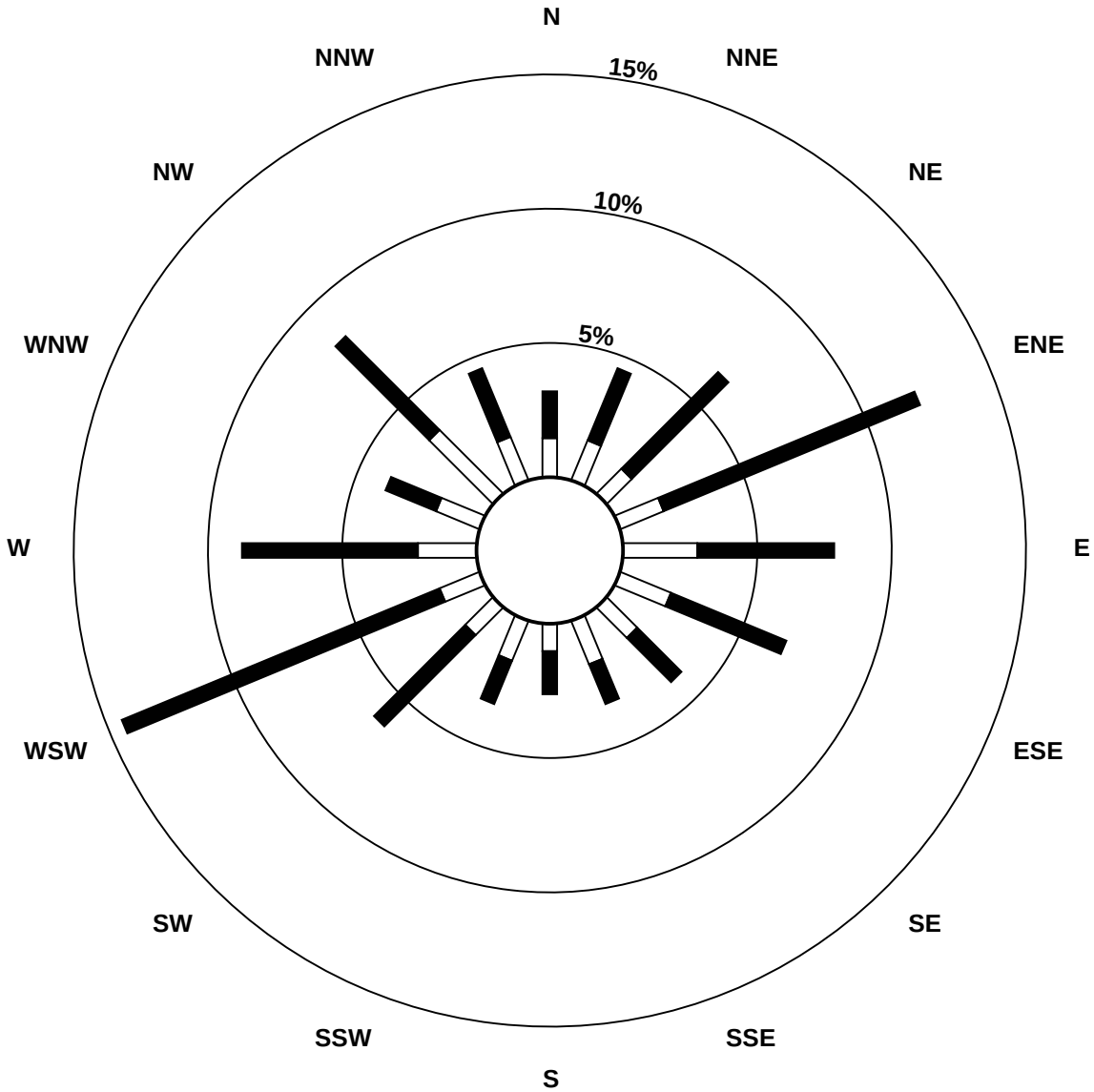
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - November 2010



Pollutant Classes (ppb)

- 0 - 20
- 21 - 50
- 51 - 82
- > 82

FOCUS AIR QUALITY MONITORING

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Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - November 2010

Maximum Value: 37.3 ppb on Nov 1 22:00

Minimum Value: 4.6 ppb on Nov 30 23:00

Percentiles: P_1 = 5.7 P_{10} = 12.8 Q_1 = 19.4 Median = 26.2 Q_3 = 31.3 P_{90} = 33.6 P_{99} = 36.5

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	6
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	31	31	30	29	28	27	27	26	25	25	25	26	27	29	31	32	35	36	37	37	37	37	37	36	37.3
2-Nov	35	35	35	35	35	35	35	35	36	36	35	34	33	33	32	32	32	32	33	34	34	34	35	35	35.8
3-Nov	35	35	35	35	36	36	35	34	32	30	28	27	27	27	27	27	28	29	30	31	30	30	29	29	35.8
4-Nov	28	27	26	25	25	23	20	18	15	13	11	9	9	8	8	7	7	6	5	6	7	8	9	11	27.9
5-Nov	13	16	20	23	24	28	30	31	33	33	33	33	33	33	33	33	34	33	33	33	32	32	31	30	33.6
6-Nov	29	28	27	26	26	25	24	23	22	21	21	21	21	21	21	22	22	23	23	23	22	22	21	21	28.7
7-Nov	19	18	16	14	14	12	11	11	11	11	11	12	12	13	13	12	11	11	11	11	12	13	14	15	19.4
8-Nov	17	20	22	23	24	23	22	21	19	17	16	15	15	15	16	17	20	21	23	25	26	27	28	29	29.0
9-Nov	28	28	28	27	26	26	24	22	20	19	17	16	16	N	N	N	N	N	N	25	25	24	23	22	28.4
10-Nov	22	20	19	17	17	16	15	13	13	14	14	15	17	19	22	25	27	28	29	31	31	31	30	30	31.4
11-Nov	31	31	31	31	31	30	29	28	26	24	22	20	20	18	17	17	17	17	17	16	15	14	13	11	31.1
12-Nov	9	8	7	9	9	12	15	18	21	25	28	30	31	32	33	34	34	34	34	34	33	32	32	32	34.5
13-Nov	32	31	31	31	31	31	32	31	32	32	32	33	33	33	34	34	34	33	33	33	32	31	31	31	33.6
14-Nov	31	31	31	31	32	31	30	30	29	27	26	25	24	23	23	23	23	23	24	25	26	28	28	29	31.9
15-Nov	29	29	29	29	29	28	27	28	29	30	31	31	32	33	33	33	32	32	31	31	31	31	31	31	33.2
16-Nov	31	31	31	31	31	31	31	30	30	29	29	29	29	29	30	30	30	30	30	30	30	30	29	30	31.4
17-Nov	30	31	31	31	32	32	32	32	31	31	31	30	30	31	31	31	32	32	32	32	33	33	33	33	32.8
18-Nov	33	33	33	33	33	32	32	32	31	31	30	30	30	30	30	30	29	28	27	26	26	25	24	23	32.9
19-Nov	22	21	20	17	16	13	11	9	8	7	8	10	12	14	16	18	20	22	23	23	24	24	24	24	24.5
20-Nov	22	21	21	20	20	18	17	16	17	18	20	21	22	25	27	28	28	29	28	28	27	27	26	26	28.5
21-Nov	26	26	25	24	24	22	21	19	18	17	16	16	17	19	20	22	23	24	24	24	24	24	24	25	26.3
22-Nov	26	28	29	31	32	33	33	33	32	31	30	29	29	28	28	28	28	27	26	26	25	24	23	23	33.5
23-Nov	22	22	23	22	22	22	23	23	23	24	24	24	24	23	23	22	20	19	18	17	17	17	18	20	24.2
24-Nov	22	24	26	27	28	29	30	30	30	30	30	30	30	30	30	31	32	32	33	34	34	35	35	35	35.3
25-Nov	35	35	36	36	36	36	36	36	36	36	36	37	37	36	36	36	36	36	36	36	35	35	34	34	36.5
26-Nov	34	33	33	33	33	33	34	33	31	29	25	21	20	18	17	17	17	19	22	25	28	30	31	31	33.6
27-Nov	32	31	31	30	30	29	27	27	26	23	22	20	20	20	20	20	20	21	21	22	21	20	20	19	31.6
28-Nov	19	18	18	17	17	16	15	13	12	12	12	13	13	14	16	17	18	18	18	18	18	19	19	19	19.5
29-Nov	21	22	22	23	23	24	24	24	24	24	24	24	23	22	21	20	19	17	16	15	15	15	15	14	24.5
30-Nov	13	13	12	10	9	9	7	6	6	6	6	6	7	7	8	9	8	8	7	6	5	5	5	5	13.3
	35.5	35.4	35.6	35.7	35.7	36.0	36.4	36.5	36.3	36.2	36.4	36.5	36.5	36.4	36.1	35.9	35.9	36.0	36.9	37.0	37.2	37.3	36.7	36.2	
	Diurnal Maximums																								

N - Not Valid

PASZA
Peace Air Shed Zone Association

Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Beaverlodge - November 2010

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 32.7 $\mu g/m^3$ on Nov 21 10:00
Maximum Daily Average: 21.1 $\mu g/m^3$ on Nov 30

Minimum Value: 0 $\mu g/m^3$ on Nov 5 03:00
Maximum Diurnal Average: 8.3 $\mu g/m^3$ at hour 18
Monthly Average: 7.55 $\mu g/m^3$

Minimum Daily Average: 3.4 $\mu g/m^3$ on Nov 18
Minimum Diurnal Average: 6.6 $\mu g/m^3$ at hour 6
Percentiles: P_1 = 1.6 P_{10} = 3.4 Q_1 = 4.5 Median = 6.0 Q_3 = 9.0 P_{90} = 14.0 P_{99} = 24.7

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	5	4	5	7	6	6	7	6	8	10	6	5	4	4	5	6	6	6	5	7	6	4	7	6	5.9	9.7
2-Nov	4	4	5	4	5	6	6	2	2	2	4	4	4	2	5	4	6	5	8	7	8	9	10	9	5.2	9.8
3-Nov	6	6	6	6	6	5	6	4	9	7	7	7	5	4	7	6	5	6	6	7	5	5	7	8	6.1	8.6
4-Nov	6	6	7	10	8	6	8	8	11	11	10	12	13	14	12	12	14	15	14	12	6	9	3	3	9.5	14.5
5-Nov	7	8	0	4	4	2	1	5	3	4	5	6	7	8	5	4	2	4	4	4	4	3	6	6	4.5	8.3
6-Nov	5	5	4	5	5	4	4	5	6	7	7	6	7	9	8	9	10	10	7	6	7	9	7	8	6.8	9.9
7-Nov	9	10	12	9	11	11	11	11	11	15	12	12	14	14	14	15	14	14	12	10	8	8	6	7	11.3	15.5
8-Nov	6	7	8	6	5	6	5	6	7	7	7	5	5	5	5	5	5	5	5	4	4	6	5	5	5.6	8.1
9-Nov	5	6	4	5	6	6	7	7	7	7	7	7	7	7	6	8	9	9	8	7	9	9	13	15	7.6	14.9
10-Nov	13	12	13	14	14	13	9	8	9	7	6	6	7	6	6	6	7	10	9	9	9	8	9	11	9.1	13.7
11-Nov	13	12	12	13	13	12	14	13	11	11	14	14	13	15	14	13	16	15	13	16	19	20	17	17	14.1	19.7
12-Nov	17	21	22	15	10	7	7	6	5	4	5	6	3	4	6	6	5	6	6	4	3	3	6	9	7.8	21.7
13-Nov	11	11	11	9	10	11	10	9	6	3	3	4	6	3	3	3	4	3	4	5	5	5	4	4	6.2	11.4
14-Nov	5	6	4	4	6	4	4	3	4	3	4	5	5	4	6	5	4	4	6	6	6	5	4	6	4.7	6.2
15-Nov	5	4	5	6	6	5	8	8	5	8	7	7	6	7	5	4	5	4	4	3	2	3	3	4	5.1	7.8
16-Nov	4	4	5	3	4	4	5	4	5	4	4	4	4	5	4	4	6	5	3	3	4	3	3	3	4.0	6.2
17-Nov	3	4	3	5	3	3	6	5	3	4	4	4	3	4	3	3	6	7	6	6	7	4	4	4	4.4	7.2
18-Nov	4	4	3	2	1	2	1	2	3	4	3	3	3	3	4	3	3	5	3	5	5	4	5	5	3.4	5.1
19-Nov	5	6	6	7	7	7	7	6	6	6	6	5	5	5	5	6	6	7	6	6	9	7	7	7	6.2	8.5
20-Nov	6	5	7	7	6	6	9	7	6	5	5	7	7	5	5	7	5	5	5	5	6	7	9	10	6.3	9.9
21-Nov	12	13	16	16	14	13	16	21	31	33	30	26	18	7	6	5	4	7	7	7	8	12	8	6	14.0	32.7
22-Nov	4	4	4	4	3	4	7	11	9	6	4	4	4	4	5	5	5	7	6	7	6	5	3	4	5.3	11.1
23-Nov	5	3	3	2	5	3	3	5	5	7	6	5	5	6	7	10	9	9	10	9	7	6	5	4	5.8	10.2
24-Nov	3	3	2	3	3	2	1	3	2	1	4	6	4	5	5	5	5	3	4	5	4	5	4	3	3.5	5.7
25-Nov	6	4	3	5	5	5	5	4	2	4	5	5	5	5	4	4	6	4	5	5	5	4	5	6	4.6	5.9
26-Nov	7	9	10	10	8	6	6	8	10	11	11	13	18	19	15	13	8	6	4	4	2	4	4	5	8.7	18.5
27-Nov	5	5	5	4	5	5	5	5	5	6	8	9	8	7	10	10	6	7	8	8	8	9	9	8	6.9	9.6
28-Nov	7	9	10	8	9	11	11	11	11	11	11	14	17	18	16	18	19	20	21	23	16	12	13	10	13.5	22.6
29-Nov	9	7	6	5	5	5	4	6	6	3	5	4	5	13	13	13	14	18	10	9	11	16	17	15	9.1	17.6
30-Nov	15	19	20	22	17	16	18	17	20	22	22	23	24	25	23	25	27	25	24	23	23	20	18	17	21.1	27.1
	7.1	7.4	7.4	7.4	7.0	6.6	7.0	7.3	7.6	7.8	7.7	7.8	7.9	7.9	7.7	7.8	8.1	8.3	7.8	7.8	7.4	7.5	7.3	7.5	Diurnal Average	
	17.1	20.6	21.7	21.8	17.4	16.0	18.3	21.3	30.9	32.7	29.9	26.0	23.9	24.7	23.3	25.2	27.1	24.9	23.8	23.4	23.5	19.7	17.5	17.2	Diurnal Maximum	

Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

PASZA
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Hourly Averages

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Beaverlodge - November 2010

FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Beaverlodge - November 2010

Maximum Value: 33.7 $\mu g/m^3$ on Nov 21 10:00

Maximum Daily Average: 22.6 $\mu g/m^3$ on Nov 30

Minimum Value: 2 $\mu g/m^3$ on Nov 18 07:00

Minimum Daily Average: 4.2 $\mu g/m^3$ on Nov 18

Maximum Diurnal Average: 9.4 $\mu g/m^3$ at hour 18

Minimum Diurnal Average: 7.6 $\mu g/m^3$ at hour 6

Monthly Average: 8.69 $\mu g/m^3$

Percentiles: P_1 = 2.5 P_{10} = 4.4 Q_1 = 5.4 Median = 7.0 Q_3 = 10.5 P_{90} = 15.7 P_{99} = 26.3

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	7	6	6	8	7	8	8	7	8	11	9	7	5	5	7	7	7	6	6	8	7	6	8	8	7.2	10.8
2-Nov	5	5	6	5	6	6	7	4	3	4	5	7	7	3	6	6	7	6	10	9	9	9	11	10	6.5	10.8
3-Nov	7	6	6	7	6	6	7	6	10	10	8	8	6	7	8	7	6	6	7	8	6	6	8	9	7.2	9.9
4-Nov	7	6	8	11	9	7	9	9	12	12	11	16	16	18	18	16	15	17	16	13	10	11	9	5	11.7	18.3
5-Nov	8	11	4	6	6	3	3	6	5	6	6	7	8	9	7	6	3	5	5	5	4	5	7	6	5.9	11.0
6-Nov	6	6	5	6	6	5	5	6	8	8	7	6	8	9	9	9	11	11	9	7	10	10	8	10	7.7	10.8
7-Nov	10	13	14	11	12	12	12	12	14	16	14	13	15	14	15	15	15	15	14	11	9	9	6	8	12.5	16.5
8-Nov	7	8	9	8	6	8	7	7	8	8	8	6	6	6	5	6	6	6	6	5	5	6	6	6	6.6	9.2
9-Nov	6	7	5	6	7	7	8	8	8	7	8	8	9	9	7	8	11	11	8	8	10	11	15	16	8.6	15.8
10-Nov	14	12	14	14	14	14	11	9	9	8	6	7	7	7	7	6	9	11	10	9	10	9	9	12	10.1	14.5
11-Nov	13	13	12	15	16	15	15	14	12	13	15	14	13	16	15	15	18	18	14	18	20	20	18	18	15.4	20.3
12-Nov	18	23	23	19	12	8	7	7	6	5	6	6	5	5	7	7	6	8	8	6	4	6	8	10	9.1	22.7
13-Nov	12	11	11	11	11	12	12	10	8	4	4	5	6	6	4	4	5	4	4	6	6	6	5	5	7.2	12.4
14-Nov	6	7	6	5	7	6	5	4	4	4	5	5	5	5	6	6	5	5	7	6	6	6	5	7	5.6	7.3
15-Nov	7	4	6	7	7	6	11	10	7	8	8	7	7	7	7	6	6	4	5	3	3	4	4	5	6.3	10.6
16-Nov	5	5	5	4	5	5	6	5	5	5	4	4	4	5	5	7	7	5	4	4	5	4	3	3	4.9	7.1
17-Nov	4	5	4	5	5	5	7	7	4	4	5	5	5	5	4	4	7	8	8	7	8	5	5	5	5.4	8.4
18-Nov	5	5	4	2	2	2	2	3	4	5	4	4	4	4	5	5	4	6	5	6	5	5	6	6	4.2	6.4
19-Nov	6	7	7	7	7	8	7	7	6	7	7	6	5	6	6	7	6	8	7	7	9	8	8	7	7.1	9.0
20-Nov	6	6	8	8	7	7	9	8	7	5	6	8	8	7	8	8	5	6	5	5	7	8	9	11	7.2	10.9
21-Nov	13	14	18	18	15	14	18	26	33	34	34	27	25	11	6	6	6	8	8	8	10	13	11	7	15.9	33.7
22-Nov	5	4	4	4	4	5	10	12	11	8	5	4	5	5	6	5	6	8	7	8	7	7	4	5	6.3	12.0
23-Nov	5	4	3	3	6	5	4	6	5	8	7	7	6	7	8	11	11	9	11	10	8	7	5	5	6.7	11.2
24-Nov	3	3	2	3	3	3	2	4	3	2	6	7	5	5	5	7	7	5	5	6	5	6	5	4	4.5	6.6
25-Nov	7	6	4	6	6	6	6	4	3	5	5	5	6	5	6	6	6	5	6	6	6	5	6	7	5.5	6.6
26-Nov	8	10	11	11	9	7	7	9	11	12	13	15	20	20	17	16	9	7	5	5	3	4	4	5	10.0	20.1
27-Nov	6	6	5	5	6	6	5	5	6	7	9	9	9	8	11	11	8	8	8	8	8	10	9	9	7.6	11.0
28-Nov	8	11	11	9	11	12	12	12	12	12	12	16	18	19	17	19	19	21	22	24	21	13	14	11	14.7	24.2
29-Nov	11	8	7	7	5	5	4	8	8	4	6	5	6	17	16	14	20	20	12	11	14	18	18	15	10.7	20.0
30-Nov	17	20	22	23	20	17	20	19	21	24	24	24	24	25	25	29	30	26	25	25	25	23	19	18	22.6	29.8
	8.1	8.4	8.4	8.5	8.1	7.6	8.2	8.5	8.7	8.7	8.8	8.9	9.1	9.3	9.1	9.3	9.3	9.4	8.9	8.8	8.7	8.7	8.5	8.5	Diurnal Average	
	17.8	22.7	22.7	23.0	19.5	17.5	19.7	26.4	32.6	33.7	33.6	26.5	24.8	25.2	24.7	29.3	29.8	25.8	24.9	24.6	24.7	22.6	18.5	18.3	Diurnal Maximum	

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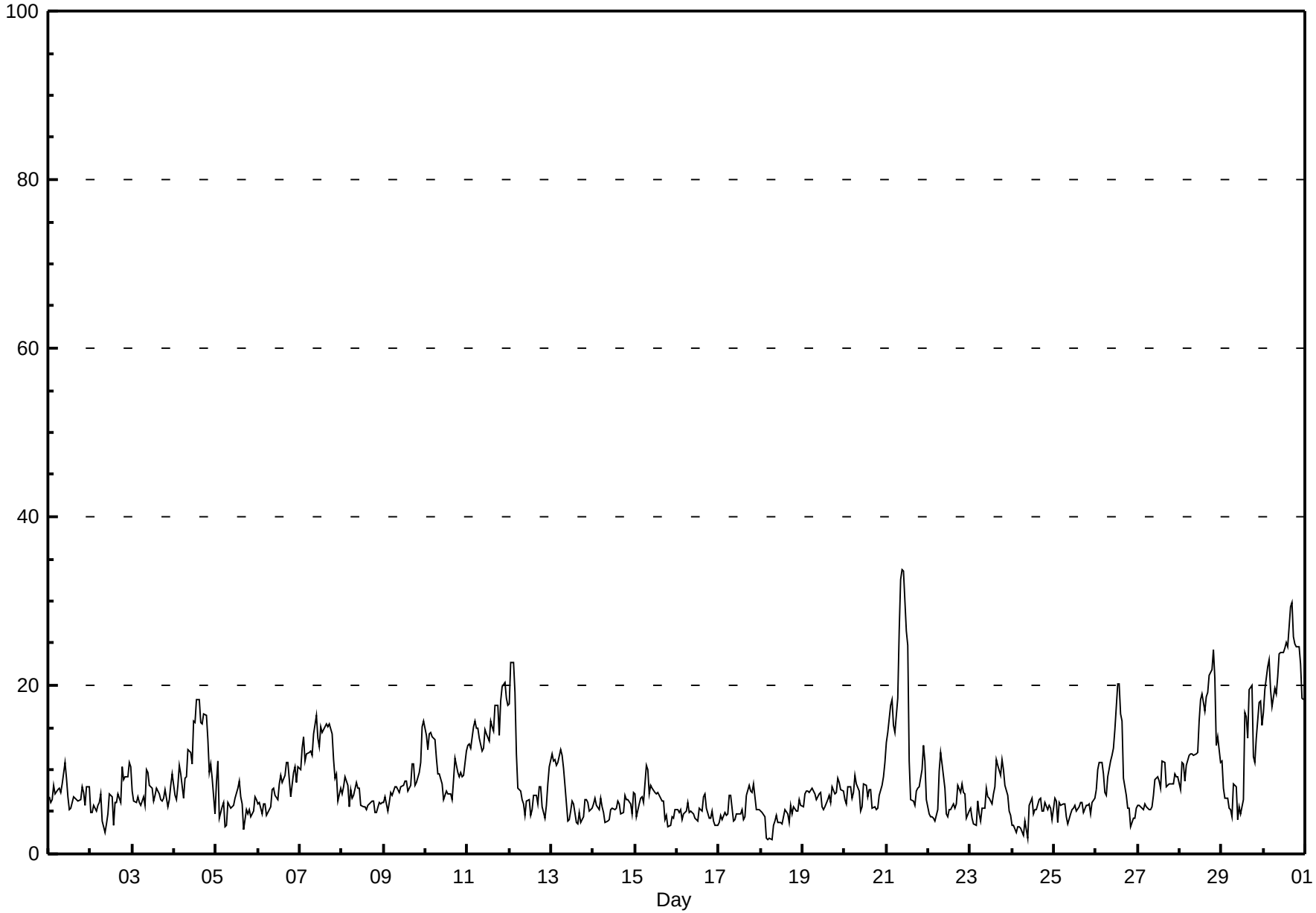
Hourly Maximums

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

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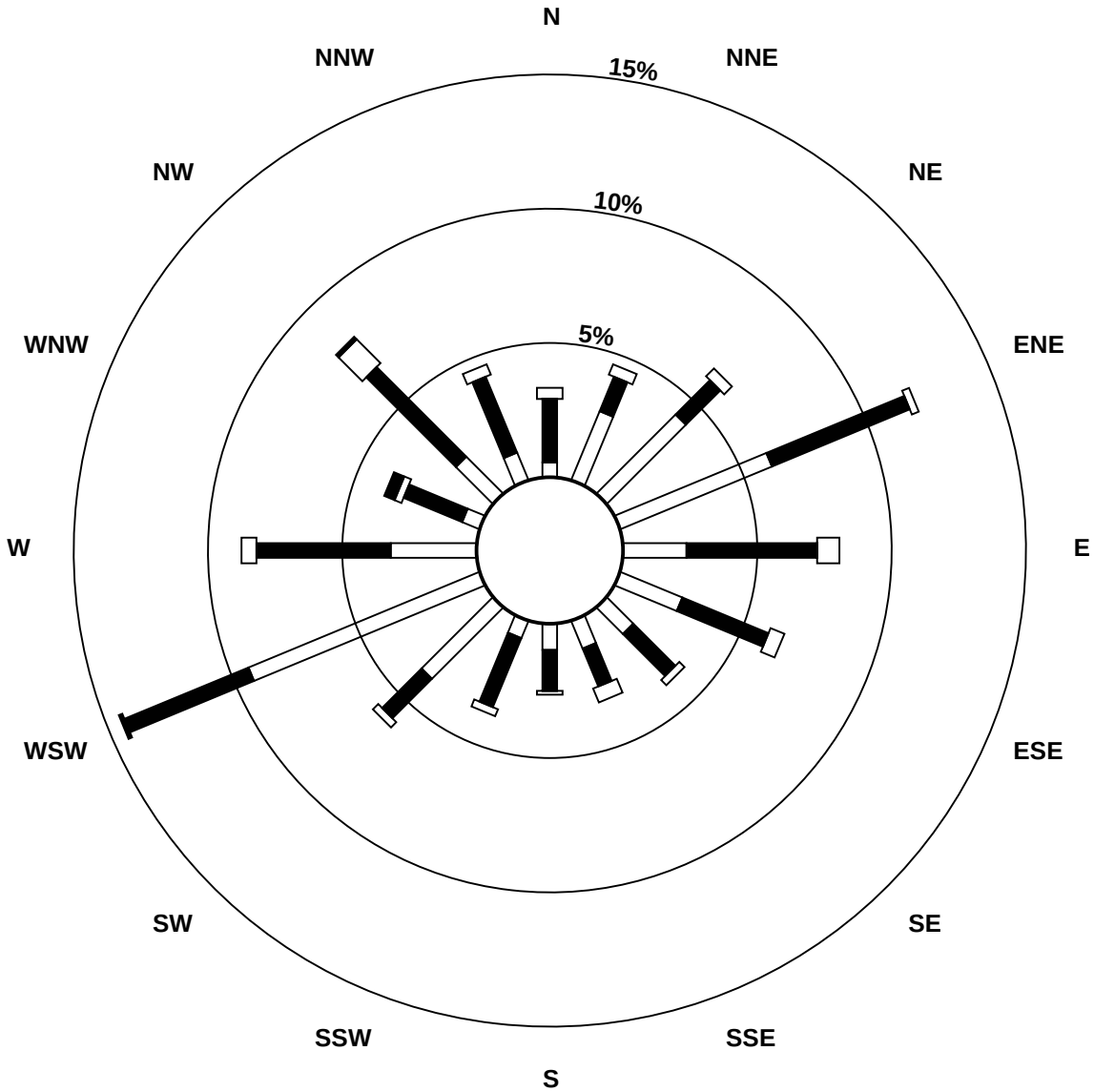
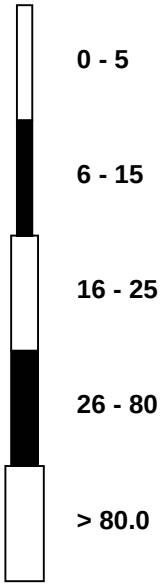
Pollutant Rose

Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

Beaverlodge - November 2010



Pollutant Classes ($\mu g/m^3$)



FOCUS AIR QUALITY MONITORING

PASZA
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Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.3 ^{o}C on Nov 1 15:00 Maximum Daily Average: 6.7 ^{o}C on Nov 2

Minimum Value: -29 ^{o}C on Nov 23 03:00 Minimum Daily Average: -24.0 ^{o}C on Nov 22
Maximum Diurnal Average: -1.9 ^{o}C at hour 15 Minimum Diurnal Average: -7.0 ^{o}C at hour 8
Monthly Average: -5.01 ^{o}C Percentiles: P_1 = -27.8 P_{10} = -18.9 Q_1 = -12.2 Median = -3.0 Q_3 = 2.2 P_{90} = 5.6 P_{99} = 10.0

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

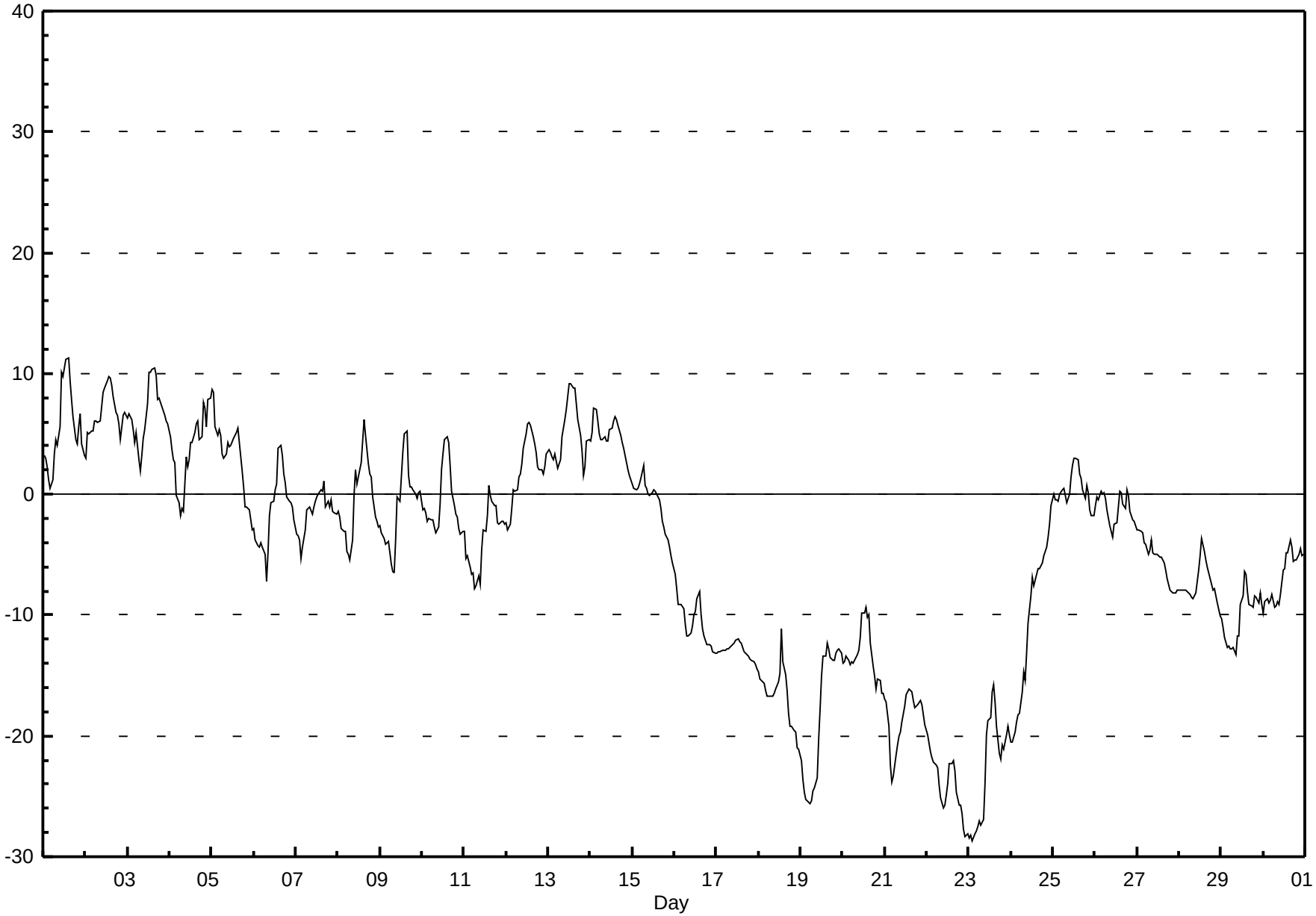
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	3	3	2	1	1	1	3	4	4	6	10	10	11	11	11	9	8	6	5	4	6	7	4	3	5.6	11.3
2-Nov	3	5	5	5	5	6	6	6	6	7	8	9	9	10	10	9	8	7	7	6	4	7	7	7	6.7	9.7
3-Nov	6	7	6	5	4	5	3	2	3	5	5	7	10	10	10	11	10	8	8	8	7	7	6	6	6.6	10.5
4-Nov	5	4	3	3	0	-1	-2	-1	-1	3	2	3	4	4	5	6	6	4	5	8	7	6	8	8	3.7	8.0
5-Nov	9	8	6	5	5	5	3	3	3	4	4	4	5	5	5	5	4	2	1	-1	-1	-1	-2	-3	3.3	8.6
6-Nov	-3	-4	-4	-4	-4	-4	-5	-7	-5	-2	-1	-1	0	1	4	4	3	2	1	0	-1	-1	-1	-2	-1.4	4.0
7-Nov	-3	-3	-4	-5	-4	-3	-1	-1	-1	-2	-1	-1	0	0	0	0	1	-1	-1	-1	0	-1	-2	-2	-1.5	1.1
8-Nov	-1	-2	-3	-3	-3	-5	-5	-5	-4	0	2	1	2	3	4	6	5	3	2	1	0	-2	-2	-3	-0.4	6.2
9-Nov	-3	-3	-4	-4	-4	-4	-6	-6	-6	-4	0	-1	1	3	5	5	2	1	1	0	0	0	0	0	-1.1	5.2
10-Nov	-1	-1	-2	-2	-2	-2	-2	-3	-3	-3	-1	2	3	5	5	4	2	0	-1	-2	-2	-3	-3	-3	-0.6	4.8
11-Nov	-3	-5	-5	-6	-7	-7	-8	-8	-7	-7	-5	-3	-3	-2	1	0	-1	-1	-1	-2	-2	-2	-2	-2	-3.7	0.7
12-Nov	-2	-3	-2	-1	0	0	0	1	2	3	4	5	6	6	6	5	4	3	2	2	2	2	2	3	2.1	5.9
13-Nov	4	3	3	3	3	2	2	3	5	6	7	8	9	9	9	9	7	6	5	4	2	2	4	4	5.0	9.2
14-Nov	4	5	7	7	6	5	4	5	5	4	4	5	5	6	6	6	6	5	4	4	3	2	2	1	4.7	7.1
15-Nov	1	0	0	0	1	1	2	1	1	0	0	0	0	0	0	-1	-1	-2	-3	-3	-4	-4	-5	-6	-0.8	2.4
16-Nov	-7	-8	-9	-9	-9	-10	-11	-12	-12	-12	-11	-10	-10	-9	-8	-10	-11	-12	-12	-12	-12	-13	-13	-13	-10.5	-6.6
17-Nov	-13	-13	-13	-13	-13	-13	-13	-13	-13	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-14	-14	-14	-14	-14	-13.0	-12.0
18-Nov	-15	-15	-15	-16	-16	-17	-17	-17	-17	-16	-16	-16	-15	-11	-14	-15	-16	-18	-19	-19	-20	-20	-21	-21	-16.7	-11.2
19-Nov	-22	-24	-25	-25	-25	-26	-25	-24	-24	-23	-20	-18	-15	-13	-13	-12	-13	-13	-14	-14	-13	-13	-13	-13	-18.4	-12.3
20-Nov	-14	-14	-13	-14	-14	-14	-14	-14	-13	-13	-12	-10	-10	-9	-10	-10	-12	-14	-15	-16	-15	-15	-17	-17	-13.3	-9.4
21-Nov	-17	-17	-19	-22	-24	-23	-22	-21	-20	-20	-19	-17	-17	-16	-16	-16	-17	-18	-18	-17	-17	-17	-18	-19	-18.7	-16.1
22-Nov	-20	-21	-21	-22	-22	-22	-23	-24	-25	-26	-26	-25	-24	-22	-22	-22	-23	-25	-26	-26	-26	-28	-28	-28	-24.0	-19.9
23-Nov	-28	-28	-29	-28	-28	-28	-27	-27	-27	-24	-20	-19	-18	-16	-16	-17	-19	-21	-22	-21	-21	-20	-19	-20	-22.7	-15.7
24-Nov	-21	-20	-20	-19	-18	-18	-16	-15	-15	-13	-11	-8	-7	-8	-7	-6	-6	-6	-6	-5	-4	-4	-3	-1	-10.7	-1.0
25-Nov	0	0	-1	-1	0	0	1	0	-1	0	1	2	3	3	3	2	1	0	0	1	0	-1	-2	-2	0.4	3.0
26-Nov	-1	0	-1	0	0	0	0	-1	-3	-3	-4	-2	-2	-1	0	0	-1	-1	0	0	-1	-2	-2	-3	-1.2	0.4
27-Nov	-3	-3	-3	-3	-4	-4	-5	-5	-4	-5	-5	-5	-5	-5	-5	-6	-6	-7	-7	-8	-8	-8	-8	-8	-5.4	-3.0
28-Nov	-8	-8	-8	-8	-8	-8	-8	-9	-9	-8	-7	-6	-5	-4	-5	-5	-6	-6	-7	-8	-8	-8	-9	-10	-7.4	-3.7
29-Nov	-10	-11	-12	-13	-13	-13	-13	-13	-13	-12	-12	-9	-8	-6	-7	-8	-9	-9	-9	-8	-8	-9	-8	-9	-10.1	-6.4
30-Nov	-10	-9	-9	-9	-9	-8	-9	-9	-9	-9	-8	-6	-6	-5	-5	-4	-4	-6	-5	-5	-5	-5	-5	-5	-6.9	-3.7
	-5.7	-5.9	-6.3	-6.6	-6.7	-6.7	-6.9	-7.0	-6.8	-5.9	-4.7	-3.7	-2.9	-2.1	-1.9	-2.1	-3.0	-4.2	-4.7	-4.9	-5.1	-5.3	-5.5	-5.7	Diurnal Average	
	8.6	8.4	7.1	7.1	6.0	6.1	6.1	5.9	6.1	7.3	10.1	9.7	10.5	11.2	11.3	10.5	9.8	7.8	8.0	7.7	7.2	6.6	7.9	8.0	Diurnal Maximum	

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 95.3 % on Nov 15 03:00 Maximum Daily Average: 87.6 % on Nov 7

Minimum Value: 34 % on Nov 5 16:00 Minimum Daily Average: 52.2 % on Nov 2
Maximum Diurnal Average: 76.7 % at hour 8 Minimum Diurnal Average: 61.5 % at hour 15
Monthly Average: 70.97 % Percentiles: P_1 = 39.9 P_{10} = 52.4 Q_1 = 62.0 Median = 73.1 Q_3 = 80.8 P_{90} = 86.0 P_{99} = 92.7

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

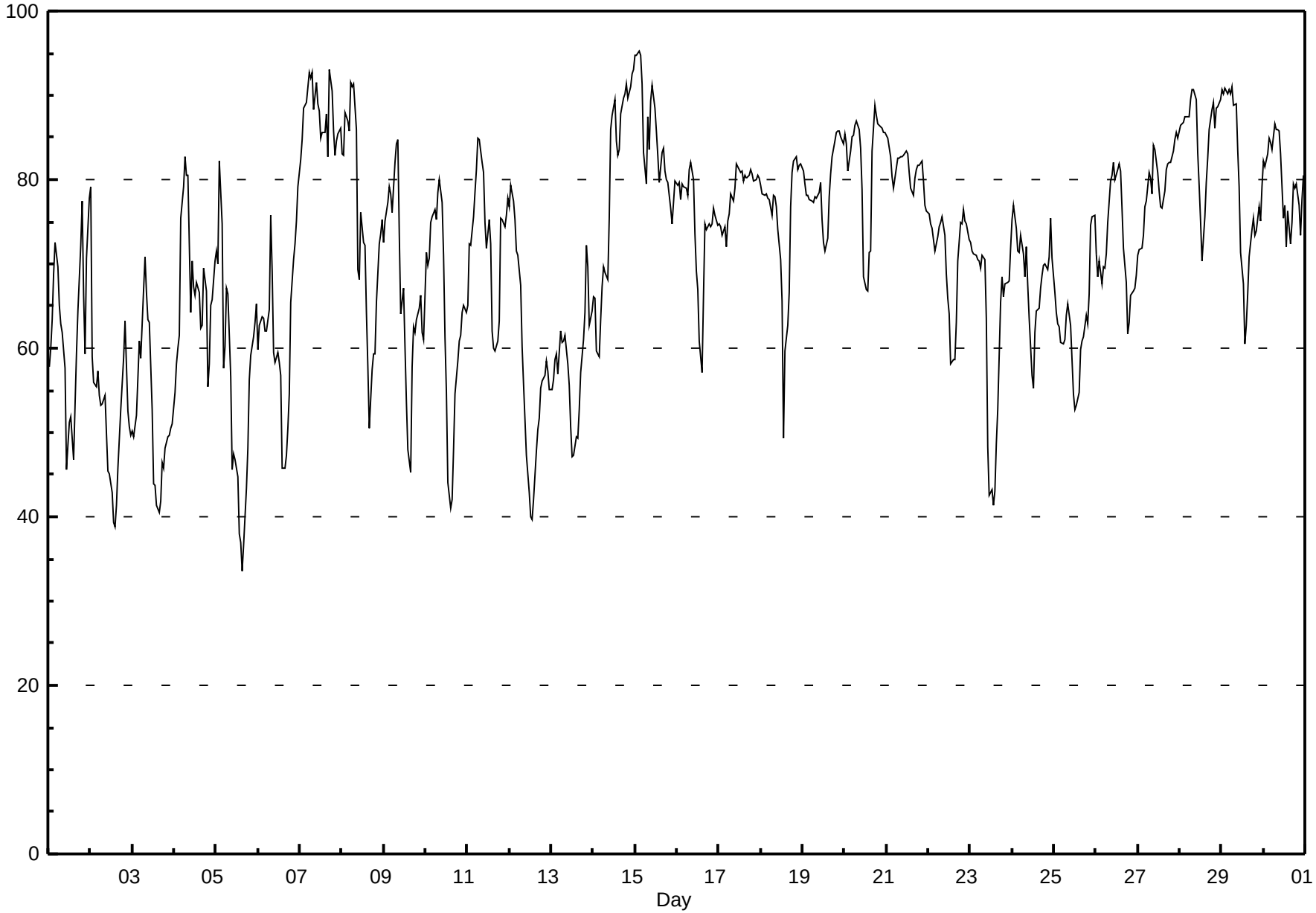
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	58	60	63	69	72	70	65	63	62	58	46	48	51	52	47	53	59	64	72	78	66	59	71	78	61.8	77.8
2-Nov	79	59	56	55	57	54	53	53	54	50	45	45	43	39	39	41	46	53	56	59	63	52	51	50	52.2	79.1
3-Nov	50	49	52	56	61	59	67	71	67	63	63	53	44	44	41	41	42	46	46	48	50	50	50	51	52.7	70.8
4-Nov	55	58	60	61	75	79	83	81	80	64	70	67	66	68	67	62	63	70	67	55	58	65	66	70	67.2	82.8
5-Nov	72	70	82	75	58	60	67	66	57	46	48	47	45	38	37	34	37	43	48	56	59	61	63	65	55.5	82.2
6-Nov	60	63	64	64	62	62	65	76	69	59	58	59	58	57	46	46	47	51	55	65	70	72	75	79	61.8	79.2
7-Nov	82	85	88	89	89	93	92	93	88	91	89	88	85	86	86	88	83	93	91	86	83	85	85	86	87.6	93.0
8-Nov	83	83	88	87	86	92	91	91	86	69	68	76	72	72	64	58	51	57	59	59	65	72	74	75	74.2	91.5
9-Nov	73	75	77	79	78	76	82	84	85	74	64	67	60	54	48	45	58	63	62	63	65	66	62	61	67.5	84.7
10-Nov	71	70	71	75	76	76	75	78	80	77	71	61	55	44	41	42	48	55	58	61	62	64	65	64	64.2	80.1
11-Nov	65	72	72	76	78	81	85	85	82	81	75	72	75	72	62	60	60	61	63	75	75	74	76	78	73.2	84.9
12-Nov	77	79	77	75	71	71	67	60	56	52	47	43	40	40	42	48	50	52	55	56	57	58	57	55	57.8	79.3
13-Nov	55	56	59	59	57	62	61	61	62	58	56	51	47	47	49	49	53	57	61	64	72	70	63	64	58.1	72.1
14-Nov	66	66	60	59	63	67	70	69	68	75	86	88	89	85	83	84	88	90	90	91	90	91	93	93	79.3	93.0
15-Nov	95	95	95	95	91	83	80	87	84	89	91	88	86	83	80	83	84	81	80	80	77	75	77	80	84.9	95.3
16-Nov	79	80	78	79	79	79	78	81	82	80	74	69	67	61	57	66	75	74	75	74	75	77	76	75	74.5	82.1
17-Nov	75	74	73	74	72	75	76	78	77	79	82	81	81	81	80	80	80	80	81	81	80	80	81	80	78.5	81.9
18-Nov	79	78	78	78	78	78	76	78	78	77	74	71	66	49	60	63	67	77	81	82	83	81	82	82	74.7	82.7
19-Nov	81	79	78	78	78	77	77	78	78	79	80	75	73	71	73	78	81	83	85	86	86	86	85	84	79.5	85.8
20-Nov	85	84	81	83	85	85	86	87	86	84	79	68	67	67	71	72	83	89	88	87	86	86	86	86	81.7	88.8
21-Nov	85	85	83	80	79	80	82	83	83	83	83	83	83	81	79	78	80	81	82	82	82	80	77	76	81.3	85.2
22-Nov	76	75	74	73	72	73	74	75	76	73	69	66	64	58	59	59	63	70	75	75	76	75	75	73	70.7	76.4
23-Nov	73	71	71	71	71	70	69	71	71	64	48	43	43	41	43	49	53	65	69	66	68	68	68	72	62.4	72.5
24-Nov	75	77	74	71	71	73	71	68	72	68	64	57	55	62	64	65	67	69	70	70	69	71	75	71	68.8	76.9
25-Nov	67	64	63	63	61	61	61	64	65	63	59	55	53	53	55	60	61	61	64	63	66	75	76	76	62.7	75.7
26-Nov	71	69	70	68	70	69	71	75	80	81	82	80	81	82	81	77	72	68	62	63	66	67	67	69	72.5	82.0
27-Nov	71	72	72	73	77	77	81	80	78	84	84	81	79	77	77	79	81	82	82	82	83	85	86	85	79.5	85.5
28-Nov	86	87	87	87	88	87	90	91	91	90	83	79	75	70	76	80	83	86	88	89	86	88	89	89	85.2	90.7
29-Nov	91	90	91	90	91	90	91	89	89	83	79	71	68	60	63	66	71	74	75	73	74	77	75	79	79.2	91.0
30-Nov	82	81	83	85	84	84	87	86	86	86	83	75	77	72	76	72	75	80	79	79	77	73	78	81	80.0	86.6
	73.9	73.6	74.0	74.3	74.3	74.9	75.8	76.7	75.7	72.6	70.0	67.0	64.9	62.2	61.5	62.5	65.3	69.1	70.6	71.7	72.3	72.8	73.3	74.2	Diurnal Average	
	94.8	94.8	95.3	94.8	91.3	92.8	92.0	92.7	90.6	91.5	91.2	88.5	89.4	85.6	85.6	87.7	87.7	93.0	90.5	91.3	89.7	91.0	92.5	93.0	Diurnal Maximum	

PASZA
Peace Air Shed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	20	17	11	7	7	7	11	10	5	4	2	11	23	28	29	25	33	26	3	3	17	23	9	3	7.8	33.1
Dir	107	113	125	140	103	123	139	124	92	85	198	233	226	223	231	227	267	272	212	112	244	236	230	200	213	267
2 Spd	2	9	11	5	25	34	34	31	29	41	49	54	51	52	53	48	39	40	36	25	20	31	33	27	32.1	54.5
Dir	180	254	250	244	233	238	233	243	245	244	246	248	247	249	253	252	249	244	252	265	249	262	253	261	248	248
3 Spd	23	30	21	14	11	7	3	5	1	2	6	11	14	17	18	17	14	14	16	18	13	10	5	4	3.7	29.7
Dir	268	265	266	257	268	310	73	99	87	113	108	117	115	110	109	105	107	95	98	97	91	90	95	110	121	265
4 Spd	11	5	2	7	4	4	2	5	2	2	3	2	0	4	2	3	3	11	8	7	4	4	7	10	2.4	11.4
Dir	93	126	52	327	5	243	11	39	117	165	265	298	226	303	193	226	316	329	354	0	348	310	307	314	338	329
5 Spd	15	15	22	22	27	22	19	25	29	31	25	23	22	27	30	30	23	15	14	10	9	11	12	3	19.5	31.4
Dir	301	298	283	243	240	238	243	245	253	253	255	249	251	253	252	255	247	252	248	241	249	239	231	208	252	253
6 Spd	9	1	3	4	1	1	4	6	3	3	2	2	3	4	3	2	2	4	8	4	3	1	1	1	1.6	8.7
Dir	239	255	102	152	240	34	72	143	33	138	91	175	173	182	163	112	67	77	76	104	97	111	208	223	127	239
7 Spd	3	4	2	7	2	10	6	11	6	4	5	7	5	7	6	5	6	2	7	2	4	3	2	1	1.1	11.2
Dir	227	268	18	268	199	27	43	91	113	201	306	265	243	270	283	254	209	223	258	292	65	140	107	42	265	91
8 Spd	1	2	2	1	1	2	2	3	4	2	2	5	1	6	5	5	14	13	10	8	3	2	1	1	1.5	14.1
Dir	285	212	70	23	29	125	99	116	77	101	97	168	94	190	197	215	264	288	281	264	254	173	102	80	236	264
9 Spd	2	4	2	3	2	2	3	2	4	4	3	7	4	4	3	4	6	5	4	1	1	2	5	1	1.9	6.8
Dir	227	62	135	66	144	272	93	158	101	77	92	177	203	208	181	130	121	74	64	151	176	112	72	69	119	177
10 Spd	2	2	3	6	4	4	4	4	3	2	3	6	12	22	21	16	14	13	13	15	15	13	7	8	7.3	22.2
Dir	67	280	23	310	337	335	355	307	358	57	67	214	228	261	271	279	279	288	283	281	284	281	296	309	283	261
11 Spd	12	3	2	1	2	2	3	3	3	1	3	3	4	2	5	8	5	2	1	4	4	5	1	3	1.2	11.8
Dir	304	358	353	72	94	93	103	71	53	141	141	199	204	164	149	123	123	158	4	216	156	44	50	159	127	304
12 Spd	2	5	1	12	10	11	18	22	25	25	29	31	34	42	31	25	28	22	9	11	7	4	13	20	17.5	41.6
Dir	151	176	226	255	253	254	250	252	251	252	256	257	259	257	251	242	246	243	203	217	199	187	223	239	247	257
13 Spd	17	10	5	1	3	2	2	2	19	25	29	37	46	46	41	34	27	23	12	10	1	1	10	7	16.7	46.5
Dir	241	275	258	106	206	92	261	227	253	250	255	254	263	269	269	267	262	263	259	256	66	287	264	259	260	263
14 Spd	3	6	20	12	7	1	3	2	3	1	6	4	4	10	19	11	9	11	12	10	12	10	10	3	6.2	19.5
Dir	234	253	273	277	259	168	73	188	211	248	17	17	15	281	271	283	333	324	310	314	318	311	314	248	295	273
15 Spd	5	2	3	2	3	6	15	15	12	12	12	10	9	8	12	10	18	23	21	21	21	19	18	17	7.9	23.1
Dir	214	191	83	74	256	241	310	336	336	317	305	294	315	344	20	14	40	58	58	58	58	50	49	49	20	58
16 Spd	17	17	17	8	10	10	14	11	6	10	13	11	8	6	7	11	13	11	16	12	13	13	14	15	9.9	17.2
Dir	43	40	44	51	53	29	359	10	2	325	319	331	331	330	40	46	69	46	49	58	51	60	62	54	33	44
17 Spd	14	13	17	17	19	21	19	20	22	27	29	27	28	32	32	34	37	37	36	37	38	36	33	30	27.2	38.5
Dir	47	54	57	71	70	69	80	73	78	74	74	72	68	68	69	66	66	64	66	63	63	63	62	56	67	63
18 Spd	31	30	27	23	23	21	17	12	11	9	7	7	7	2	6	6	5	3	3	5	4	1	2	2	9.5	30.8
Dir	56	57	53	37	38	47	43	31	37	32	37	16	19	358	312	270	254	215	57	47	54	86	87	74	42	56
19 Spd	2	3	2	4	1	1	2	2	1	5	1	2	1	2	1	10	8	6	5	4	9	9	7	5	2.4	10.5
Dir	327	85	336	22	301	257	31	159	100	44	80	121	141	165	29	327	331	328	306	303	312	325	360	48	345	327
20 Spd	5	4	2	1	2	2	3	1	6	3	5	5	5	2	2	0	3	3	4	7	6	7	8	5	1.4	8.2
Dir	175	172	145	240	270	302	240	274	324	343	329	328	11	30	294	0	73	77	85	75	69	77	82	79	49	82
21 Spd	5	3	1	1	1	5	12	11	7	4	3	4	11	11	9	10	8	8	10	10	9	19	20	18	6.3	20.4
Dir	70	58	80	306	2	340	326	316	307	282	287	292	299	311	317	314	314	323	322	325	15	35	35	28	343	35
22 Spd	20	19	18	19	19	17	13	12	10	13	16	16	11	7	9	5	5	4	1	0	3	2	2	2	6.6	20.4
Dir	16	13	16	22	26	21	7	351	335	319	316	316	307	259	227	231	249	205	74	209	204	137	136	155	350	16

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Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	3	2	2	4	3	3	4	4	4	4	3	2	1	1	2	1	4	1	1	2	1	4	4	2	2.1	4.3
Dir	160	97	115	96	88	120	112	120	108	122	120	142	107	77	199	247	173	143	72	48	68	63	59	97	110	63
24 Spd	1	2	5	4	2	3	4	0	5	3	2	2	2	3	5	16	13	13	10	9	10	10	11	18	3.8	18.3
Dir	117	117	51	64	93	64	59	148	68	66	142	141	210	141	218	238	231	234	222	230	231	237	222	244	223	244
25 Spd	32	34	28	20	28	34	26	29	12	19	34	30	17	10	14	18	25	19	15	16	8	3	6	6	18.7	34.2
Dir	262	251	245	247	257	263	257	246	251	262	264	263	262	246	233	219	242	244	257	258	249	158	113	74	252	251
26 Spd	7	6	5	5	4	4	2	4	5	2	4	1	4	6	3	7	8	12	11	6	8	11	7	8	2.0	11.6
Dir	79	80	94	86	99	88	149	263	335	37	272	354	350	332	156	212	225	243	265	259	225	233	237	223	237	243
27 Spd	5	4	5	3	3	4	3	5	4	7	11	11	13	13	11	10	8	10	9	8	7	5	5	6	5.3	13.1
Dir	214	236	243	238	75	185	85	43	16	279	318	311	306	316	329	351	342	330	330	321	311	321	342	326	319	316
28 Spd	4	6	7	2	2	1	3	1	3	3	2	3	3	3	3	4	2	2	2	1	1	0	3	2	1.1	6.5
Dir	317	333	314	294	327	261	266	26	45	66	72	87	113	90	90	86	68	83	130	305	305	274	79	135	36	314
29 Spd	3	3	5	3	4	1	4	3	5	4	3	3	3	1	0	3	4	5	4	9	5	2	3	3	2.3	9.0
Dir	69	80	52	77	72	129	62	74	58	58	115	94	237	283	86	115	171	146	124	117	165	279	154	172	105	117
30 Spd	3	3	2	5	3	0	3	3	2	1	1	2	2	0	2	4	2	1	3	1	3	2	1	3	1.1	5.2
Dir	227	297	316	280	313	74	309	27	3	99	29	198	197	111	328	276	252	118	262	28	344	352	321	42	310	280
Spd	1.2	1.4	1.9	1.5	1.3	1.5	1.5	1.6	2.2	3.5	5.0	6.1	6.5	7.2	6.7	5.8	5.1	4.0	2.1	1.3	1.1	1.2	1.0	1.1	Diurnal Average	
Dir	334	326	335	316	292	294	308	283	294	270	275	260	261	261	257	256	260	277	301	327	346	342	7	346		
Spd	32.0	34.2	27.8	22.6	27.8	33.9	33.5	31.4	29.4	41.0	48.6	54.5	50.5	51.5	53.3	48.3	38.5	39.7	36.3	37.2	38.5	36.0	33.0	29.8	Diurnal Maximum	
Dir	262	251	245	37	257	238	233	243	245	244	246	248	247	249	253	252	249	244	252	63	63	63	62	56		

Maximum Speed Value: 54 km/h on Nov 2 12:00
Maximum Daily Speed Average: 32.1 km/h on Nov 2
Maximum Diurnal Speed Average: 7.2 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 24 08:00
Minimum Daily Speed Average: 1.1 km/h on Nov 30
Minimum Diurnal Speed Average: 1.0 km/h at hour 23

Monthly Average Velocity: 2.65 km/h 277.9 deg

Speed Percentiles: $P_1 = 0.5$ $P_{10} = 1.6$ $Q_1 = 2.8$ Median = 5.4 $Q_3 = 12.9$ $P_{90} = 25.2$ $P_{99} = 45.2$

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Percent Operational Time:	100.0

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	22	16	6	3	0	0	47
NorthEast	44	17	21	9	10	1	102
East	89	15	12	7	4	0	127
SouthEast	47	13	3	0	0	0	63
South	40	3	0	0	0	0	43
SouthWest	36	26	15	18	6	4	105
West	31	27	24	24	21	9	136
NorthWest	28	46	23	0	0	0	97
Total	337	163	104	61	41	14	720

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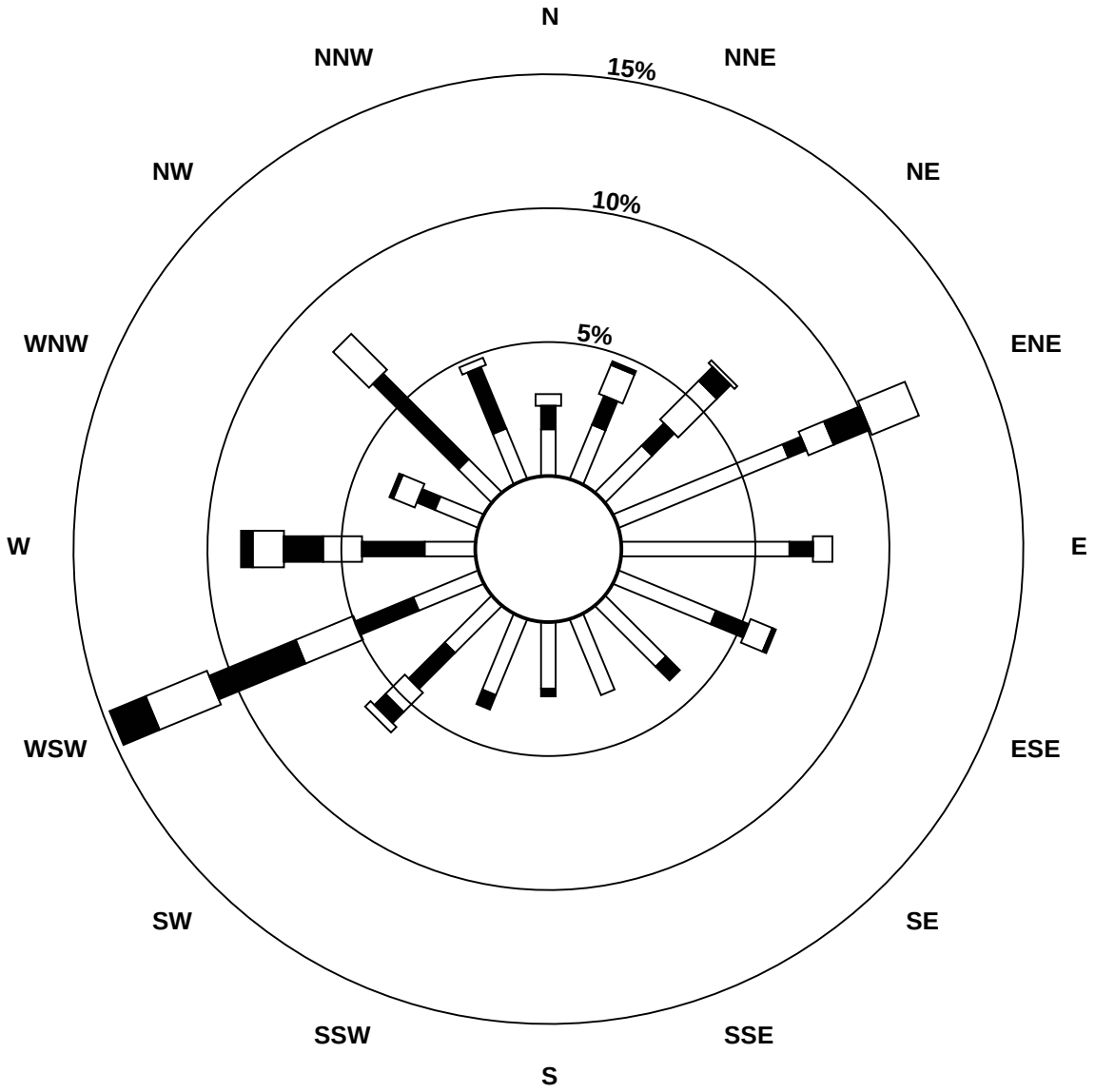
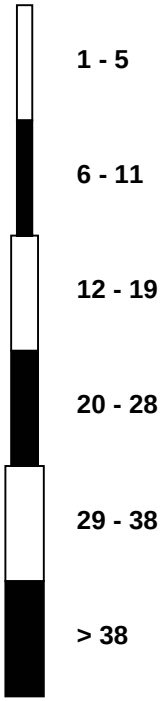
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - November 2010



Wind Speed Classes (km/h)



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - November 2010

Maximum Speed: 55 km/h on Nov 2 12:00

Maximum Daily Speed Average: 32.7 km/h on Nov 2

Minimum Speed: 1 km/h on Nov 20 16:00

Minimum Daily Speed Average: 3.1 km/h on Nov 23

Maximum Diurnal Speed Average: 13.5 km/h at hour 15

Minimum Diurnal Speed Average: 8.0 km/h at hour 4

Monthly Average Speed: 10.34 km/h

Percentiles: $P_1 = 1.5$ $P_{10} = 2.6$ $Q_1 = 3.6$ Median = 6.3 $Q_3 = 13.0$ $P_{90} = 25.4$ $P_{99} = 45.4$

Hours in Service: 720
Hours of Data: 720
Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	20	17	11	8	7	7	11	10	5	4	4	12	24	28	29	25	34	26	6	4	18	23	9	3	14.4	33.6
2-Nov	3	9	11	6	25	34	34	32	30	41	49	55	51	52	53	48	39	40	36	25	20	32	33	28	32.7	54.6
3-Nov	23	30	21	15	12	8	4	7	3	4	6	11	14	17	18	17	14	14	16	18	13	10	5	5	12.7	29.8
4-Nov	11	6	4	8	7	5	5	5	3	3	4	2	2	5	5	4	4	12	10	8	5	5	8	11	5.9	11.8
5-Nov	15	16	22	23	27	22	19	25	29	31	25	23	22	27	30	30	23	15	15	10	9	12	12	7	20.5	31.5
6-Nov	9	6	4	4	2	3	5	7	4	4	2	3	3	4	3	2	3	4	8	4	4	2	2	2	3.9	9.2
7-Nov	3	4	3	8	4	10	18	11	9	5	6	7	5	7	6	5	6	3	8	5	5	4	3	2	6.1	17.6
8-Nov	3	3	3	2	3	3	5	5	4	3	4	5	4	6	5	6	14	13	10	8	4	3	2	2	4.9	14.2
9-Nov	3	4	2	3	2	3	4	4	4	4	3	7	4	4	3	4	6	5	4	1	1	2	5	3	3.7	6.9
10-Nov	3	3	4	8	5	5	6	5	6	2	4	6	12	23	21	16	14	13	13	15	15	13	7	8	9.4	22.6
11-Nov	12	4	3	3	3	3	4	3	3	3	3	4	4	3	6	8	5	3	4	6	5	10	5	5	4.6	11.9
12-Nov	3	5	4	12	10	11	18	22	25	26	30	32	34	42	32	25	28	23	9	11	8	8	13	20	18.7	41.8
13-Nov	18	10	7	2	5	2	3	5	19	25	29	37	47	46	41	34	27	23	12	11	4	4	10	7	17.8	46.7
14-Nov	5	7	20	12	8	3	3	3	3	4	6	5	4	10	19	12	9	11	12	10	12	11	10	5	8.5	19.6
15-Nov	5	2	3	3	5	7	17	15	12	13	12	11	9	9	12	11	19	23	21	21	21	19	18	17	12.7	23.2
16-Nov	17	17	17	8	11	11	14	11	7	10	13	11	9	6	7	11	13	11	16	12	13	13	14	15	12.0	17.2
17-Nov	15	14	17	18	19	21	20	20	22	27	29	27	28	32	32	35	37	37	36	37	39	36	33	30	27.4	38.6
18-Nov	31	30	27	23	23	21	18	12	11	9	8	7	7	3	6	7	6	3	3	5	4	2	3	2	11.2	30.8
19-Nov	3	3	3	5	2	3	2	2	3	5	3	3	1	2	3	11	8	6	5	4	9	9	7	5	4.4	10.6
20-Nov	5	4	2	2	3	3	4	2	6	3	5	5	5	2	2	1	3	3	4	7	6	7	8	5	4.1	8.3
21-Nov	5	3	2	2	2	6	12	11	8	4	3	4	11	11	9	10	8	8	10	10	10	19	20	18	8.6	20.5
22-Nov	20	19	19	19	19	17	13	12	10	13	16	16	12	8	9	5	5	5	2	2	4	3	3	3	10.6	20.5
23-Nov	3	3	3	4	3	3	4	4	4	4	4	3	2	3	2	2	4	2	2	2	3	4	4	2	3.1	4.4
24-Nov	2	2	5	4	3	3	4	1	5	3	2	3	2	3	6	16	13	13	11	9	10	10	11	19	6.7	18.8
25-Nov	32	34	28	20	28	34	26	29	13	20	34	30	18	10	14	18	25	19	16	16	10	5	6	7	20.5	34.4
26-Nov	7	6	5	5	5	4	3	4	6	3	5	5	6	9	7	7	8	12	12	7	9	11	8	8	6.6	12.2
27-Nov	5	4	5	4	3	4	3	5	4	7	11	11	13	13	12	10	8	10	9	8	8	6	6	6	7.3	13.2
28-Nov	4	6	7	2	3	2	3	2	3	3	2	3	3	3	3	4	4	3	3	4	3	2	3	2	3.2	6.6
29-Nov	3	3	5	4	4	2	5	4	5	4	3	3	3	2	3	4	5	6	5	10	7	4	4	4	4.2	10.0
30-Nov	4	4	3	6	4	3	4	4	3	3	3	2	3	2	4	4	3	4	4	3	5	3	4	5	3.6	5.6
	9.7	9.3	8.9	8.0	8.6	8.8	9.6	9.4	9.0	9.7	11.0	11.7	12.1	13.1	13.5	13.1	13.1	12.3	10.7	9.8	9.4	9.6	9.2	8.5	Diurnal Average	
	32.2	34.4	27.8	23.3	28.0	33.9	33.6	31.7	29.5	41.1	48.7	54.6	50.7	51.8	53.5	48.5	38.6	39.8	36.4	37.3	38.6	36.1	33.1	29.8	Diurnal Maximum	

All monthly, daily, and diurnal averages have been calculated using scalar methods

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - November 2010

Maximum Value: 95.1 deg on Nov 30 10:00

Minimum Value: 2.4 deg on Nov 2 06:00

Percentiles: P_1 = 3.0 P_{10} = 4.7 Q_1 = 7.4 Median = 18.3 Q_3 = 44.1 P_{90} = 68.3 P_{99} = 91.8

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Nov	3	6	6	22	16	14	7	11	21	19	83	17	12	7	5	5	11	6	58	39	48	7	22	47	82.9
2-Nov	75	32	12	31	7	2	3	7	5	4	3	4	5	5	5	5	5	4	4	8	13	5	3	8	75.4
3-Nov	4	4	3	8	38	32	36	49	79	60	12	6	10	6	5	3	3	4	4	4	6	6	33	39	79.2
4-Nov	13	37	59	32	72	41	68	37	62	58	43	57	87	14	83	48	65	18	50	31	57	50	44	18	86.7
5-Nov	8	10	8	21	3	3	4	4	4	5	5	7	7	7	5	5	4	5	6	17	29	22	20	80	79.6
6-Nov	38	89	51	15	62	90	17	38	78	46	56	45	34	25	23	41	42	12	7	14	43	43	63	59	90.5
7-Nov	30	22	75	48	63	34	78	13	44	55	21	18	26	15	17	26	16	46	25	73	32	33	41	56	78.5
8-Nov	93	69	52	75	78	46	60	44	18	39	51	23	70	17	34	27	8	8	12	15	48	35	73	55	92.6
9-Nov	68	12	50	22	47	85	61	54	27	26	36	11	19	31	40	16	12	12	33	74	30	32	14	85	85.0
10-Nov	63	61	67	49	27	46	50	58	52	56	22	20	20	11	7	6	7	4	5	5	3	3	8	17	67.1
11-Nov	9	43	64	72	44	51	36	19	49	61	37	25	22	36	38	13	18	36	84	49	34	72	85	60	85.0
12-Nov	27	10	95	9	10	6	9	4	4	4	4	6	6	6	7	6	6	14	22	12	27	61	11	5	94.6
13-Nov	14	9	55	63	64	36	83	78	6	4	6	4	5	6	4	5	4	3	4	31	92	74	6	7	92.4
14-Nov	75	62	6	8	20	68	23	47	11	89	19	22	38	12	4	15	10	9	6	8	10	10	6	54	89.0
15-Nov	15	29	22	35	77	47	32	10	9	11	7	12	15	23	5	7	16	5	5	5	5	6	6	9	77.1
16-Nov	6	5	4	11	11	18	6	7	19	6	10	13	16	22	33	11	9	8	8	8	7	8	8	7	33.4
17-Nov	5	8	6	8	5	4	9	5	5	5	4	4	4	5	4	4	4	4	4	4	4	3	4	4	8.8
18-Nov	3	3	5	7	7	5	7	8	9	8	10	7	7	37	13	22	20	56	17	8	7	43	38	28	55.5
19-Nov	80	45	86	38	72	68	60	53	59	14	80	30	26	26	58	7	8	8	7	9	4	6	22	9	86.2
20-Nov	29	10	22	86	50	57	37	83	4	57	8	14	25	61	36	87	17	11	20	14	15	9	8	12	86.7
21-Nov	11	20	77	59	83	57	8	4	8	12	15	16	9	7	8	7	7	7	6	7	18	5	5	5	82.8
22-Nov	6	6	6	6	5	5	9	7	8	7	6	4	18	24	7	17	21	20	73	86	54	47	33	51	86.1
23-Nov	42	49	36	20	52	24	23	16	12	18	19	44	86	92	73	77	13	63	56	68	77	12	14	34	92.1
24-Nov	21	32	8	11	31	13	8	93	14	19	36	46	35	26	57	5	5	6	7	6	6	6	9	13	92.9
25-Nov	7	6	3	11	26	5	8	3	21	41	4	5	9	21	13	7	10	9	12	7	44	55	19	23	55.2
26-Nov	7	13	25	11	26	19	61	33	42	64	46	86	51	47	72	15	12	34	11	24	33	7	48	6	86.0
27-Nov	8	31	9	35	40	12	40	10	36	24	8	7	4	7	14	9	10	6	12	8	8	44	24	12	44.3
28-Nov	22	8	9	39	42	89	21	40	11	8	21	14	12	13	11	20	52	23	67	90	67	93	31	29	93.5
29-Nov	27	17	15	21	16	34	8	48	15	35	25	53	54	79	83	43	40	31	28	35	52	92	36	38	91.9
30-Nov	53	71	54	27	47	89	53	44	56	95	76	75	47	92	81	30	62	87	67	87	49	74	81	65	95.1
	92.6	89.0	94.6	86.3	82.8	90.5	82.7	92.9	79.2	95.1	82.9	86.0	86.7	92.1	82.8	86.7	65.4	87.2	83.5	89.6	92.4	93.5	85.0	85.0	

PASZA
Portable – Bonanza Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.8 ppb on Nov 16 07:00 Maximum Daily Average: 1.7 ppb on Nov 27

Minimum Value: 0 ppb on Nov 15 19:00 Minimum Daily Average: 0.0 ppb on Nov 17
Maximum Diurnal Average: 0.6 ppb at hour 7 Minimum Diurnal Average: 0.3 ppb at hour 4
Monthly Average: 0.43 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.5 P_{90} = 0.8 P_{99} = 2.7

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	2	1	1	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
2-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-Nov	0	0	0	0	0	0	0	A	0	1	0	1	1	1	0	0	0	1	0	0	0	1	0	1	0.4	0.9
4-Nov	1	0	0	0	0	0	A	0	0	M	C	C	C	C	1	1	0	0	1	0	0	0	0	0	0.4	0.7
5-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
6-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0.4	0.6
7-Nov	0	A	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0.4	0.9
8-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.4	1.0
9-Nov	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.6
10-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	0	0	0	A	0	0	0.4	0.8
11-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	A	1	1	0	0.4	1.0
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	0.3	1.0
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
16-Nov	0	0	0	0	0	0	7	1	0	0	1	0	0	1	0	A	0	0	0	0	0	0	0	0	0.5	6.8
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.2
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0.2	0.8
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0	0.4	0.7
20-Nov	0	0	0	0	0	0	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
21-Nov	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0.4	1.6
22-Nov	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	0.7
23-Nov	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.6	1.0
24-Nov	0	A	0	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0.5	0.8
25-Nov	1	1	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
26-Nov	0	0	A	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.5	1.0
27-Nov	0	0	0	A	0	0	0	1	1	1	P	P	1	2	3	2	3	3	4	3	3	3	3	2	1.7	4.4
28-Nov	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.9	2.3
29-Nov	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	1	1	0.6	1.0
30-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	0.6	1.1
	0.4	0.4	0.3	0.3	0.3	0.3	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	2.3	2.2	1.5	0.9	1.1	1.0	6.8	1.3	1.0	0.9	0.9	1.0	1.0	2.0	2.6	2.0	2.7	3.2	4.4	2.9	2.9	2.7	2.5	2.3	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

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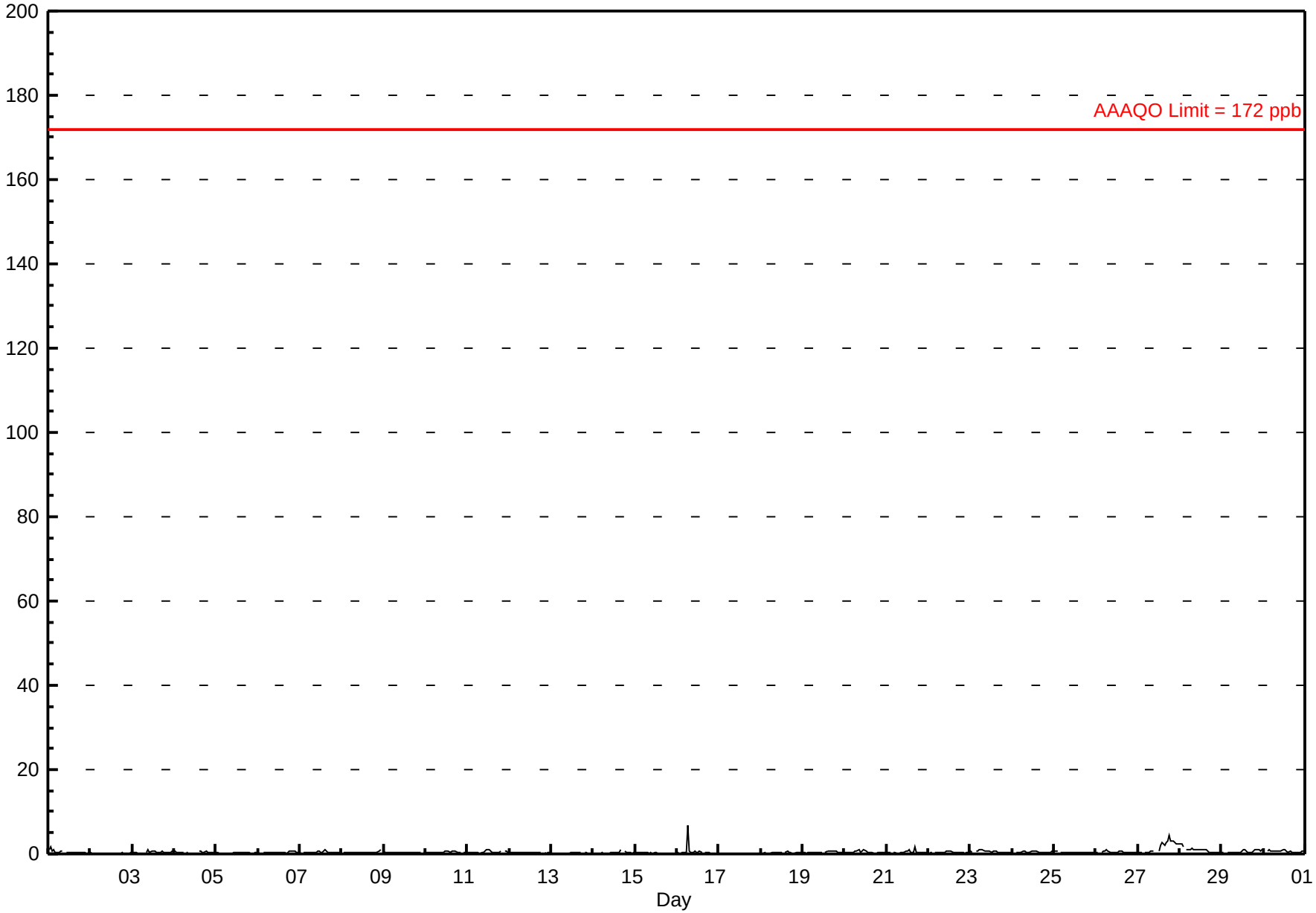
Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - November 2010

Maximum Value: 20.2 ppb on Nov 16 07:00

Maximum Daily Average: 2.2 ppb on Nov 27

Minimum Value: 0 ppb on Nov 30 21:00

Minimum Daily Average: 0.3 ppb on Nov 17

Maximum Diurnal Average: 1.4 ppb at hour 7

Minimum Diurnal Average: 0.6 ppb at hour 4

Monthly Average: 0.77 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.9$ $P_{90} = 1.4$ $P_{99} = 3.8$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	2	1	1	1	1	1	1	1	A	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0.8	2.0
2-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
3-Nov	0	1	0	0	0	0	0	A	1	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.8
4-Nov	1	1	1	0	1	1	A	1	1	M	C	C	C	C	1	1	1	2	2	1	1	1	1	1	0.9	1.8
5-Nov	1	0	0	A	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0.4	0.9
6-Nov	0	0	A	0	0	1	0	0	0	1	1	1	1	0	1	0	0	1	1	1	1	1	1	0	0.6	0.9
7-Nov	0	A	1	1	1	1	0	0	1	1	1	1	1	1	3	1	1	1	1	1	0	0	0	1	0.8	2.6
8-Nov	A	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.6	1.5
9-Nov	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	A	1	0.6	1.0
10-Nov	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0	0.7	1.0
11-Nov	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	0	0	1	A	1	1	1	0.7	1.9
12-Nov	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0.5	0.9
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0.3	0.6
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	A	1	1	1	1	0	0	0.5	1.4
15-Nov	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.8
16-Nov	0	1	0	1	1	1	20	1	0	0	2	1	1	1	1	A	0	1	1	0	0	0	0	1	1.5	20.2
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.4
18-Nov	0	0	0	0	0	0	1	1	0	0	0	0	1	A	1	1	0	0	0	0	0	0	0	0	0.6	1.5
19-Nov	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	0.7	1.3
20-Nov	0	0	0	0	0	0	1	1	2	1	2	2	1	1	1	0	0	0	0	0	0	1	1	1	0.7	1.8
21-Nov	0	0	0	A	0	0	0	0	0	1	1	1	2	2	1	1	8	1	0	1	1	1	0	0	1.1	8.4
22-Nov	0	0	1	A	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	0	0	0	1	1	0.6	0.9
23-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	1	1	1.0	1.9
24-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0.9	1.4
25-Nov	1	1	1	A	1	1	1	0	1	0	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0.7	1.0
26-Nov	0	0	A	1	1	1	2	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.8	1.5
27-Nov	0	0	0	A	0	0	0	1	1	1	P	P	1	4	4	2	3	4	5	4	3	3	3	3	2.2	4.9
28-Nov	3	3	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.3	2.9
29-Nov	0	0	A	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
30-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1.0	1.4
	0.7	0.6	0.6	0.6	0.6	0.6	1.4	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.8	1.0	0.8	0.8	0.8	0.7	0.7	0.7	0.7	Diurnal Average	
	2.9	2.6	1.9	1.5	1.5	1.4	20.2	1.5	1.8	1.8	1.8	1.8	1.9	4.0	3.8	2.4	8.4	3.9	4.9	4.4	3.4	3.1	2.9	2.9	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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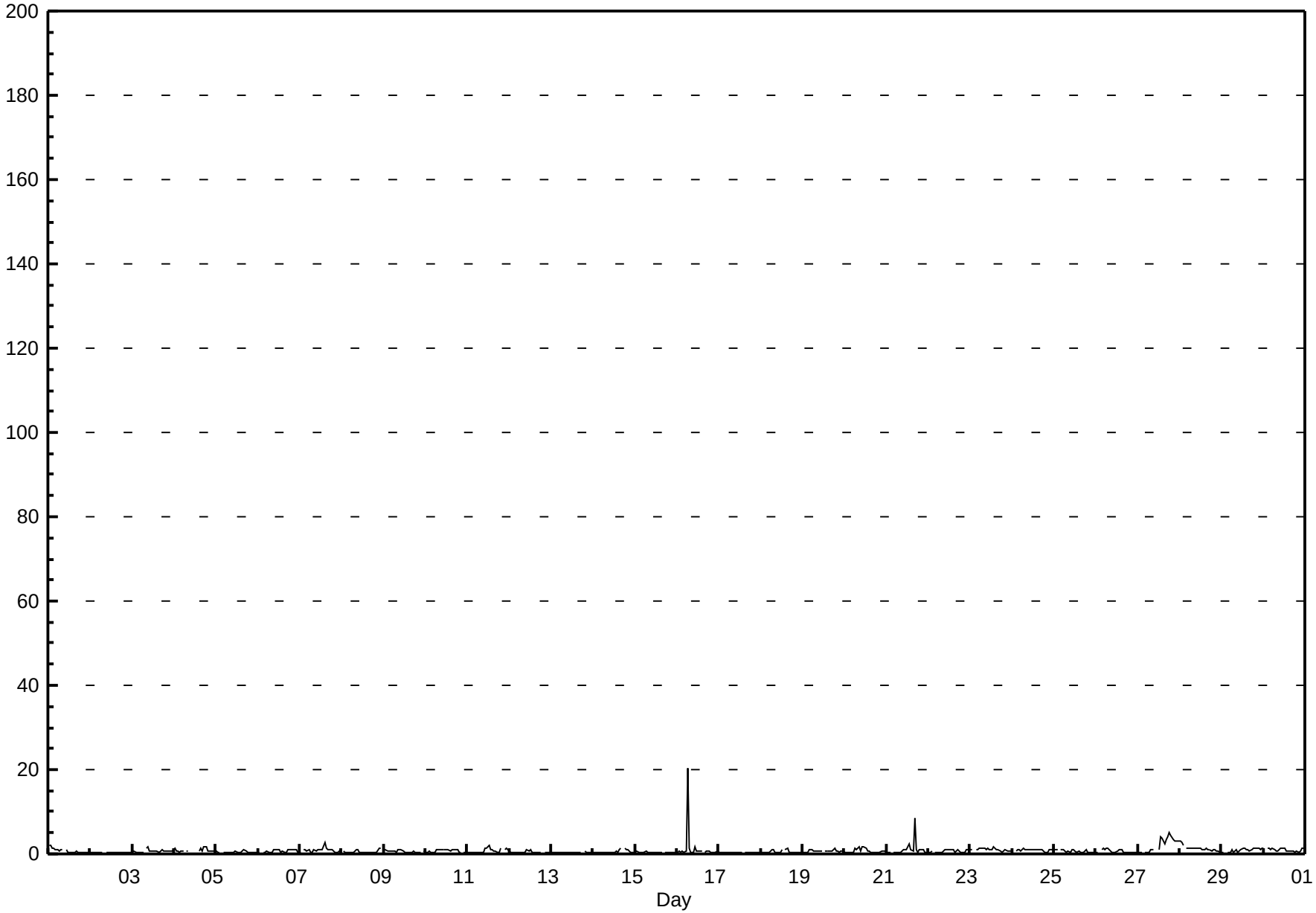
Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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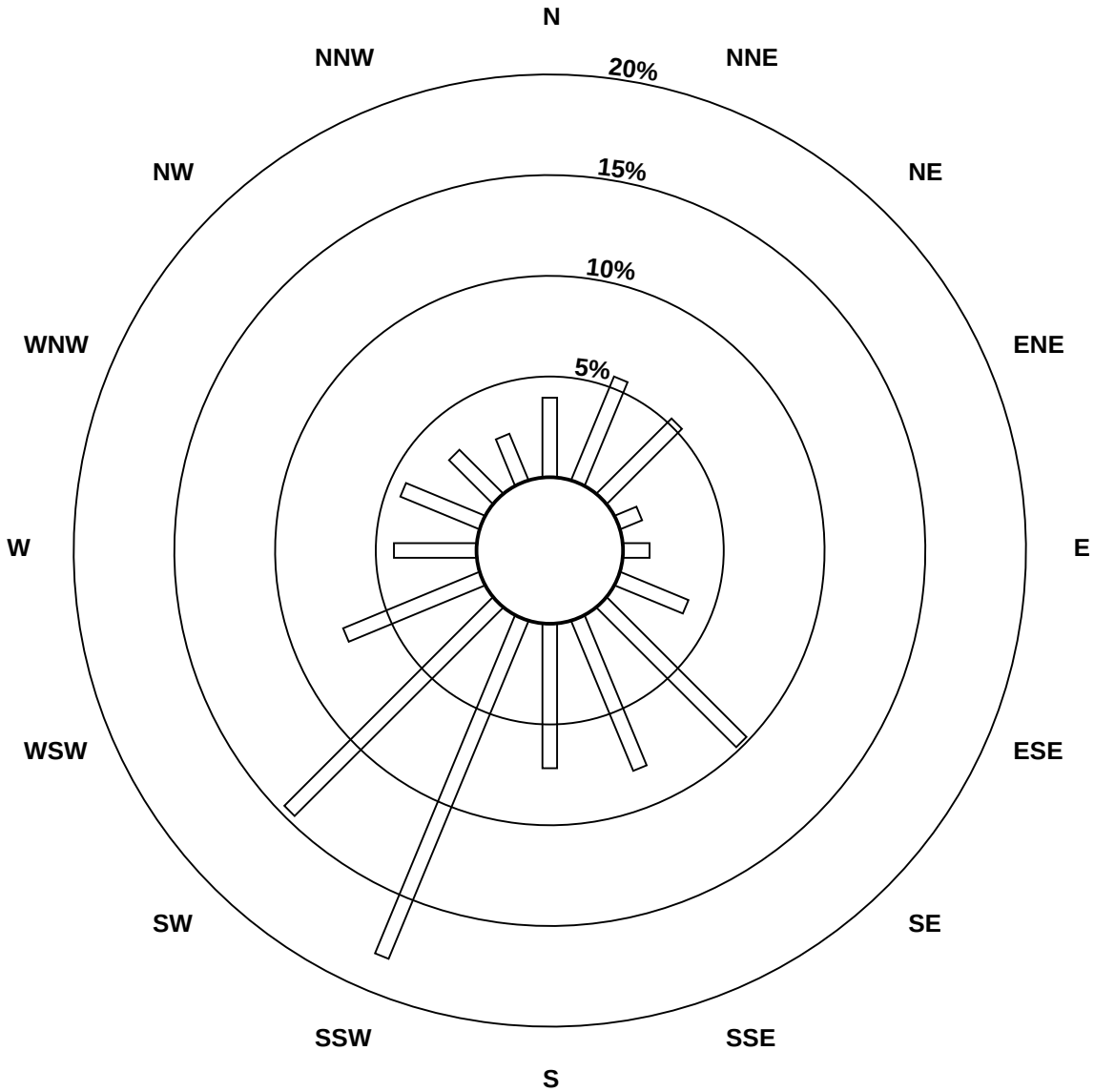
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - November 2010



Pollutant Classes (ppb)

- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

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Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.0 ppb on Nov 7 20:00 Maximum Daily Average: 0.6 ppb on Nov 27

Minimum Value: 0 ppb on Nov 18 19:00 Minimum Daily Average: 0.3 ppb on Nov 18
Maximum Diurnal Average: 0.5 ppb at hour 14 Minimum Diurnal Average: 0.4 ppb at hour 23
Monthly Average: 0.44 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.5$ $P_{99} = 0.8$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
2-Nov	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
3-Nov	0	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
4-Nov	0	0	0	0	0	0	A	1	0	M	0	1	0	1	C	C	C	C	0	0	0	0	0	0	0.4	0.5
5-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0.4	0.5
6-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
7-Nov	0	A	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	1	0	0	0	0.5	1.0
8-Nov	A	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.6
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0.4	0.5
10-Nov	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	A	0	0	0.5	0.7
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.5
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0.4	0.5
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.5
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0	0	0	0	0	0.4	0.6
15-Nov	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	1	A	0	0	0	0	0	0	0	0.5	0.6
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.4
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.4
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.3
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	1	1	1	0	0	0	0	0	0.4	0.6
20-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	1	0	0	0.5	0.5
21-Nov	0	0	0	A	1	1	1	1	1	1	0	1	1	1	0	1	1	0	1	0	0	0	0	0	0.5	0.7
22-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0.5	0.5
23-Nov	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.6	0.8
24-Nov	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
25-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
26-Nov	0	0	A	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.6
27-Nov	0	0	1	A	1	1	1	1	1	0	P	P	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
28-Nov	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
29-Nov	0	0	A	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0.5	0.8
30-Nov	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.5	0.6
	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	0.6	0.6	0.5	0.6	0.6	0.9	0.7	0.7	0.8	0.6	0.6	0.7	0.6	0.8	0.8	0.7	0.8	0.9	0.9	1.0	0.8	0.8	0.7	0.7	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

PASZA
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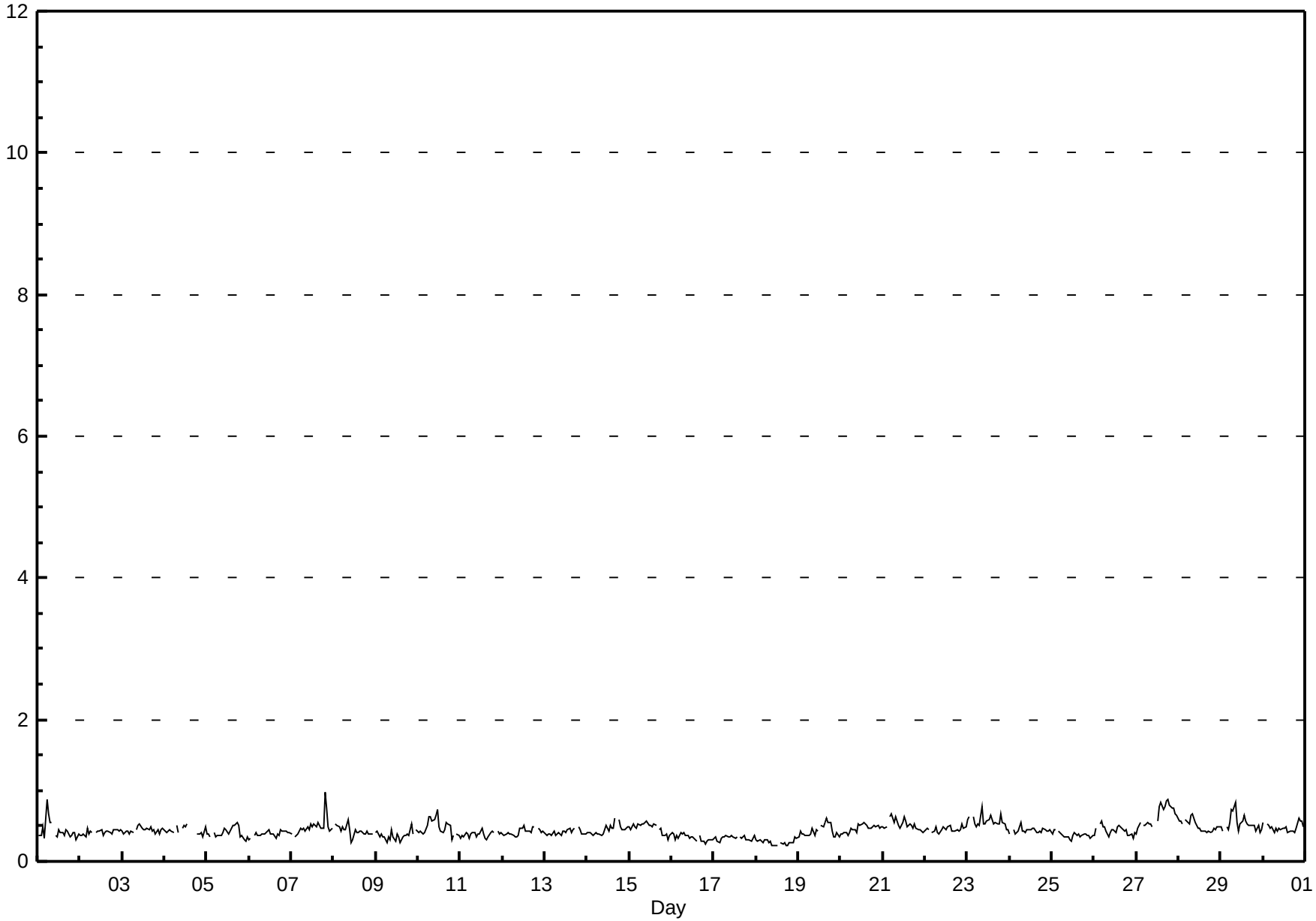
Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
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Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - November 2010

Maximum Value: 1.9 ppb on Nov 7 20:00

Maximum Daily Average: 1.0 ppb on Nov 27

Minimum Value: 0 ppb on Nov 16 20:00

Minimum Daily Average: 0.6 ppb on Nov 18

Maximum Diurnal Average: 0.8 ppb at hour 14

Minimum Diurnal Average: 0.7 ppb at hour 4

Monthly Average: 0.79 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 0.9$ $P_{90} = 1.0$ $P_{99} = 1.2$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
2-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
3-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
4-Nov	1	1	1	1	1	1	A	1	1	M	1	1	1	1	C	C	C	C	1	1	1	1	1	1	0.8	1.2
5-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
6-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
7-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0.9	1.9
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.4
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.2
12-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.0
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.0
14-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.1
15-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.2
16-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	0.7	0.9
17-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.0
18-Nov	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	0.9
19-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
21-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
22-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
23-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
24-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
25-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
26-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
27-Nov	1	1	1	A	1	1	1	1	1	1	P	P	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
28-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
29-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
30-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	Diurnal Average	
	1.2	1.2	1.0	0.9	1.0	1.7	1.2	1.2	1.2	1.4	1.2	1.2	1.4	1.5	1.1	1.2	1.0	1.2	1.2	1.9	1.2	1.2	1.4	1.1	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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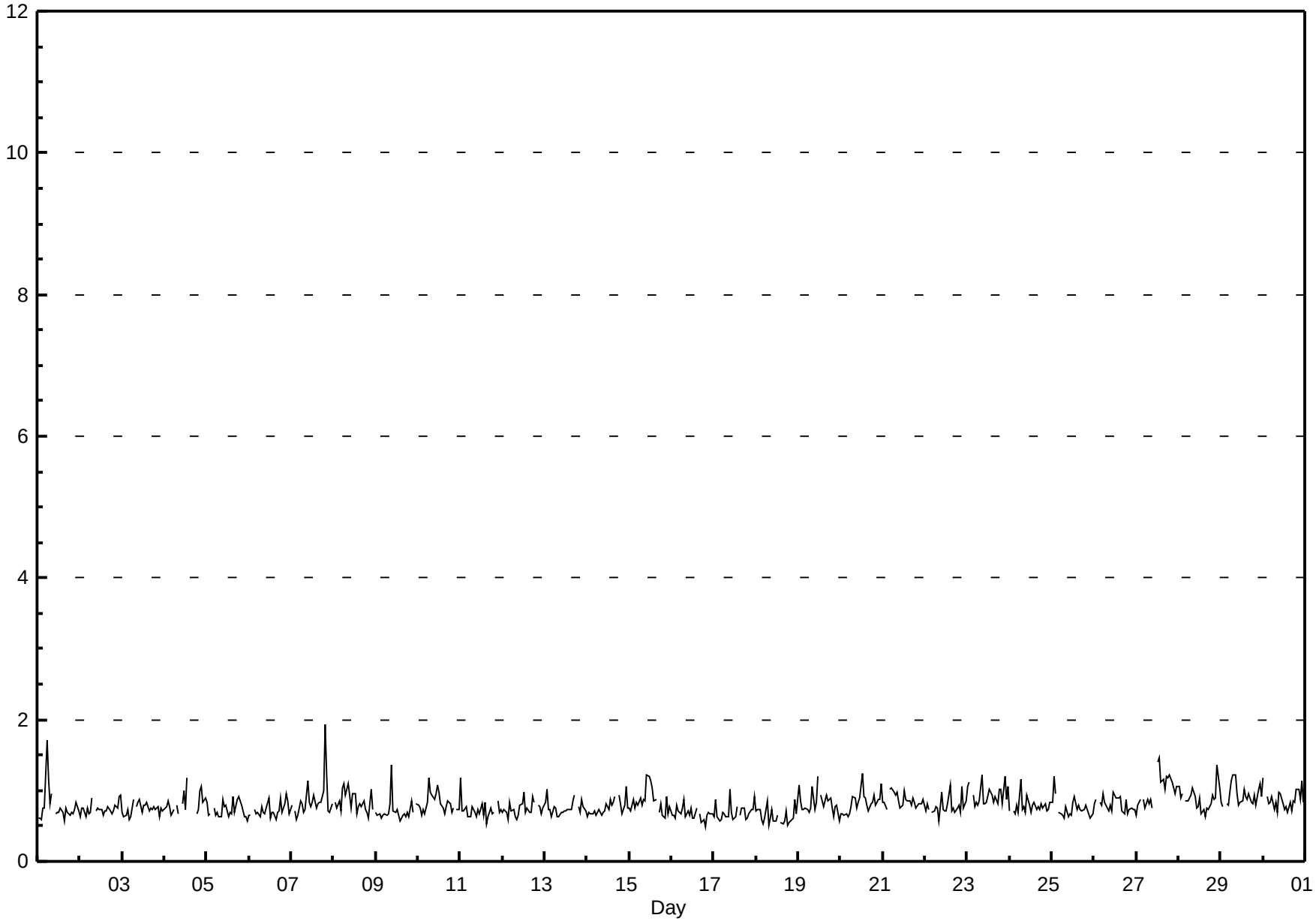
Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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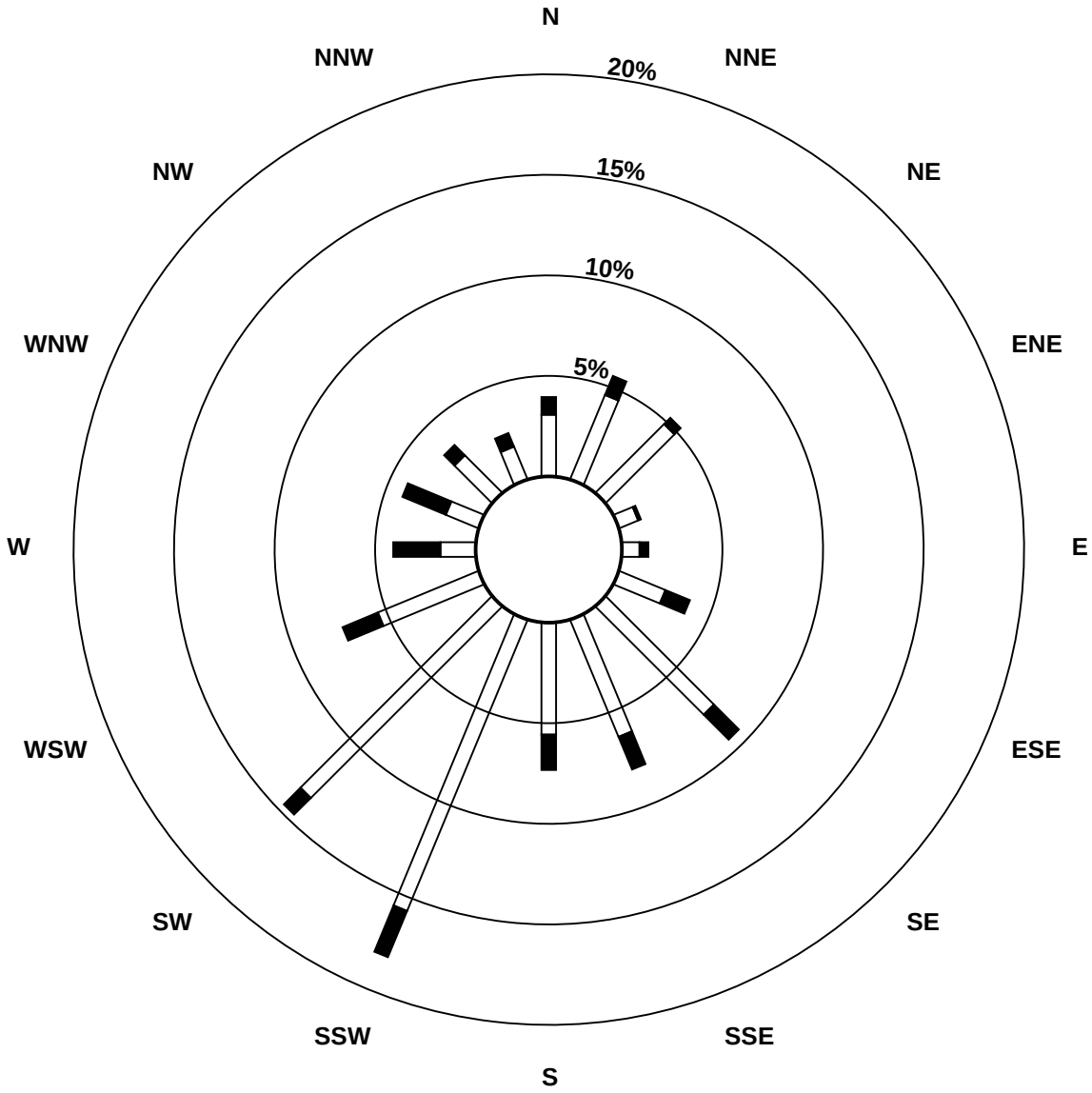
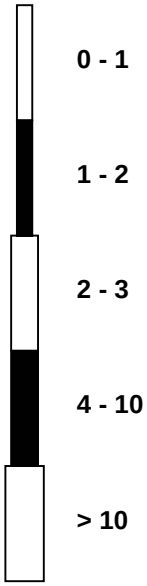
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 19.3 ppb on Nov 29 04:00
Maximum Daily Average: 10.8 ppb on Nov 29

Minimum Value: 0 ppb on Nov 27 02:00
Maximum Diurnal Average: 4.7 ppb at hour 19
Monthly Average: 3.34 ppb

Minimum Daily Average: 0.9 ppb on Nov 2
Minimum Diurnal Average: 2.1 ppb at hour 13
Percentiles: P_1 = 0.0 P_{10} = 0.8 Q_1 = 1.1 Median = 2.2 Q_3 = 4.9 P_{90} = 7.3 P_{99} = 13.3

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	3	3	2	3	4	3	3	3	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	3.6
2-Nov	1	1	1	1	1	1	1	1	A	2	1	1	0	1	0	0	1	1	2	1	1	1	1	1	0.9	1.9
3-Nov	1	1	1	1	1	4	7	A	8	7	9	5	3	2	3	3	9	8	4	4	3	3	3	3	3.9	9.3
4-Nov	3	4	4	7	6	6	A	8	7	M	C	C	C	C	C	9	6	6	6	7	6	8	8	1	--	9.1
5-Nov	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1.0	2.2
6-Nov	1	2	A	3	2	5	3	2	2	2	4	3	2	2	2	2	3	7	6	7	6	8	8	7	3.8	7.7
7-Nov	5	A	5	5	6	10	6	4	7	4	4	3	3	4	4	5	6	9	9	8	6	4	2	2	5.2	9.7
8-Nov	A	2	1	1	1	2	2	1	2	2	2	2	3	3	3	2	1	3	2	1	1	2	3	A	2.0	3.4
9-Nov	2	2	3	3	4	4	5	6	6	5	4	2	1	2	2	2	3	6	7	6	5	5	A	9	4.0	9.3
10-Nov	7	6	8	8	8	8	6	5	6	5	6	4	3	3	1	1	3	4	6	3	3	A	2	2	4.6	8.2
11-Nov	2	1	1	2	6	9	9	7	9	9	7	6	6	5	4	3	4	5	5	5	A	6	6	3	5.2	9.3
12-Nov	2	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	2	1	1	1	1.0	2.0
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1.0	1.7
14-Nov	1	1	1	1	2	1	2	2	1	2	1	1	1	3	2	2	3	A	3	3	3	1	1	2	1.7	3.2
15-Nov	2	2	2	2	2	2	1	2	2	2	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1.4	2.4
16-Nov	1	1	2	3	1	2	3	2	4	2	1	1	1	2	2	A	2	3	1	1	1	1	1	2	1.8	3.5
17-Nov	4	4	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	0	1	1	1	1	1.1	4.2
18-Nov	1	1	1	1	1	1	4	3	2	4	2	1	1	A	2	2	2	3	10	6	4	5	7	9	3.2	9.5
19-Nov	7	10	8	6	5	4	4	4	4	4	3	3	A	3	2	3	3	4	5	2	1	2	2	1	4.0	9.6
20-Nov	1	1	1	1	1	1	4	3	6	7	2	C	C	1	2	1	2	4	7	6	4	3	4	4	3.1	6.9
21-Nov	5	6	6	A	6	6	6	5	4	3	3	C	C	C	1	1	1	1	1	2	1	2	1	0	3.1	6.5
22-Nov	1	1	0	A	1	1	1	1	1	1	1	2	2	1	1	1	2	3	3	4	4	2	2	2	1.7	4.4
23-Nov	1	2	A	2	3	3	5	8	5	4	3	3	2	5	4	5	6	8	10	9	7	6	5	5	4.9	9.6
24-Nov	3	A	2	2	2	2	2	2	2	2	2	1	M	M	M	M	M	M	4	6	2	2	2	1	--	6.2
25-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	1.2	2.5
26-Nov	3	3	A	8	4	3	7	13	3	5	6	5	C	C	C	C	1	0	0	0	0	0	0	0	3.3	13.3
27-Nov	0	0	0	A	3	2	2	3	2	2	P	P	2	2	3	5	5	5	6	4	4	4	4	3	2.9	5.5
28-Nov	4	4	3	A	3	4	7	10	7	5	3	5	4	4	6	6	7	6	13	12	9	7	10	12	6.5	12.5
29-Nov	12	14	A	19	17	14	16	13	15	12	7	9	7	7	9	9	11	11	12	11	7	5	5	5	10.8	19.3
30-Nov	7	A	7	6	5	7	5	5	7	6	4	C	C	C	6	6	9	12	11	11	12	12	8	5	7.5	11.8
	2.9	2.8	2.6	3.6	3.3	3.7	3.9	4.2	4.2	3.5	3.0	2.5	2.1	2.2	2.5	2.8	3.4	4.2	4.7	4.3	3.5	3.4	3.2	3.0	Diurnal Average	
	11.5	14.0	8.5	19.3	17.1	14.4	16.4	13.4	15.4	11.8	9.2	8.6	7.3	7.2	8.7	9.1	11.3	11.8	12.5	11.8	11.7	11.7	10.1	11.6	Diurnal Maximum	

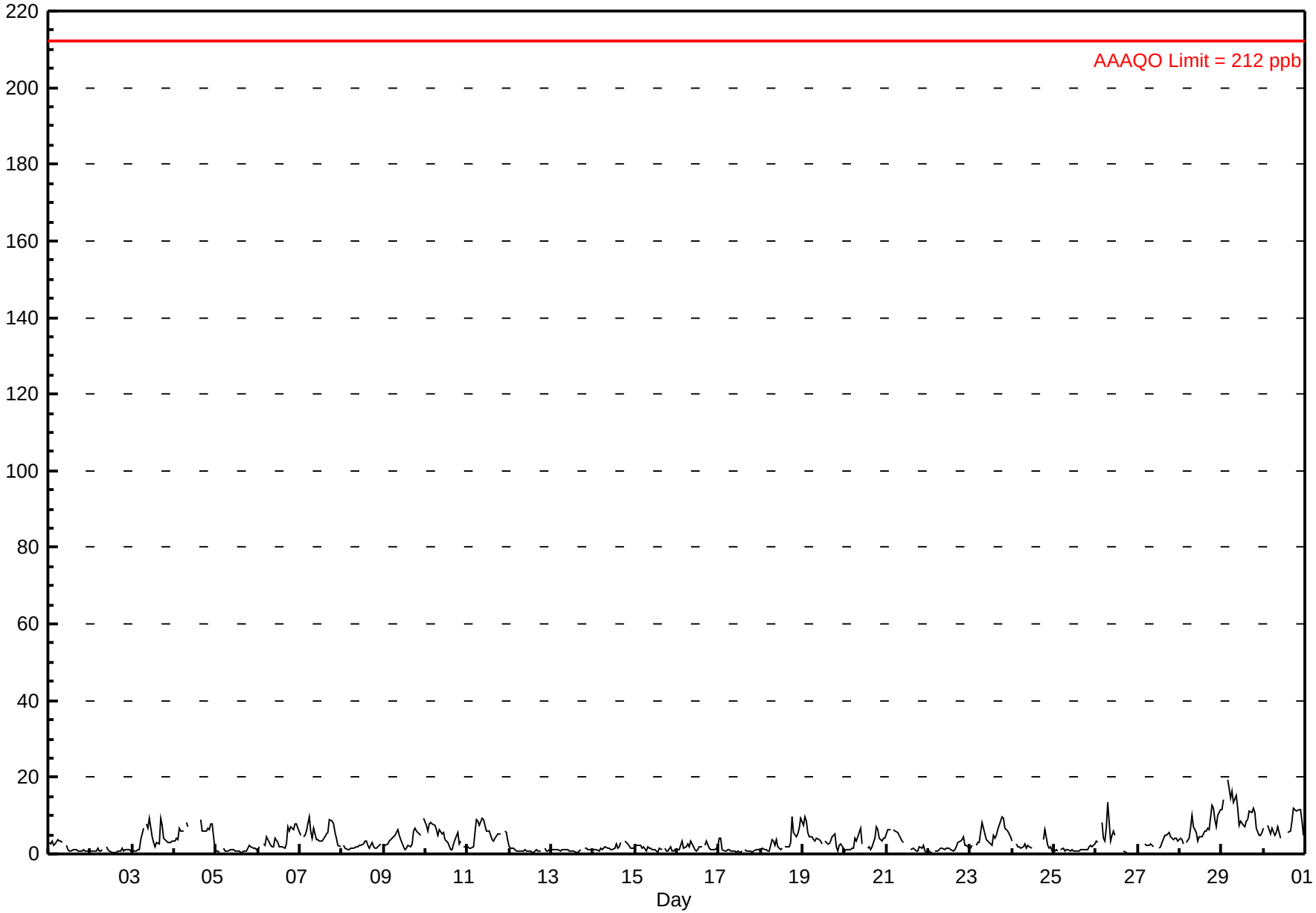
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb 24-hr 106 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - November 2010

Maximum Value: 48.4 ppb on Nov 29 09:00

Maximum Daily Average: 19.0 ppb on Nov 29

Minimum Value: 0 ppb on Nov 27 03:00

Minimum Daily Average: 2.1 ppb on Nov 12

Maximum Diurnal Average: 10.7 ppb at hour 19

Minimum Diurnal Average: 4.2 ppb at hour 13

Monthly Average: 7.01 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 1.4$ $Q_1 = 2.4$ Median = 5.0 $Q_3 = 9.5$ $P_{90} = 15.4$ $P_{99} = 31.6$

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	5	9	3	7	13	10	7	8	A	5	2	3	2	3	4	1	1	2	3	3	1	1	1	4.4	13.4
2-Nov	1	1	2	2	14	4	1	11	A	4	3	4	2	3	2	1	3	2	4	1	3	2	2	2	3.2	14.2
3-Nov	2	1	2	3	2	32	21	A	21	16	21	11	6	7	13	6	31	29	9	6	7	4	3	4	11.2	32.1
4-Nov	4	7	8	17	12	12	A	20	17	M	C	C	C	C	C	16	13	13	9	9	8	13	11	3	--	20.5
5-Nov	1	1	1	A	2	3	2	1	2	2	3	5	2	6	2	2	4	5	4	5	3	2	4	2	2.8	6.4
6-Nov	2	3	A	4	7	16	9	6	9	4	11	6	7	7	5	8	9	17	15	16	11	22	19	16	10.0	22.3
7-Nov	11	A	7	11	8	17	13	5	13	9	6	6	6	5	7	7	8	22	16	13	7	5	3	3	9.0	22.2
8-Nov	A	3	2	1	3	3	3	2	5	4	5	3	3	5	5	12	2	8	6	2	3	3	5	A	4.1	12.3
9-Nov	3	3	4	4	5	8	11	10	14	9	8	5	4	5	3	5	7	20	25	16	18	7	A	21	9.3	24.9
10-Nov	13	8	10	13	11	13	19	11	15	8	8	6	5	6	2	2	4	17	27	8	6	A	3	7	9.7	27.3
11-Nov	4	6	5	4	32	42	21	15	16	14	11	10	8	8	7	7	10	13	7	6	A	8	7	4	11.6	41.9
12-Nov	3	2	2	1	2	1	4	1	2	4	2	2	2	2	1	4	3	1	2	A	3	1	1	1	2.1	4.2
13-Nov	1	1	1	3	1	1	3	4	2	2	1	2	1	2	2	2	2	4	A	3	3	2	2	2	2.1	4.4
14-Nov	2	1	3	1	5	2	5	4	2	4	2	2	3	3	2	3	6	A	5	13	3	3	3	3	3.6	13.2
15-Nov	3	4	3	3	3	3	1	8	2	3	3	3	1	1	8	3	A	2	2	1	12	1	1	2	3.1	11.8
16-Nov	9	6	10	16	3	3	5	3	7	4	3	1	2	4	5	A	6	12	7	2	3	3	2	7	5.4	16.0
17-Nov	13	12	11	1	1	2	2	2	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2.7	13.1
18-Nov	1	2	2	1	1	2	13	16	13	12	8	2	4	A	6	11	5	8	25	11	11	8	10	10	8.0	24.8
19-Nov	9	11	11	8	5	5	8	8	9	5	7	3	A	4	3	3	4	9	9	3	2	4	5	3	6.0	11.4
20-Nov	1	2	2	2	3	5	7	5	19	26	8	C	C	3	10	2	8	10	17	24	8	10	6	10	8.5	26.1
21-Nov	9	10	8	A	8	14	9	7	5	6	4	C	C	C	1	2	2	1	1	6	8	7	4	2	5.7	14.0
22-Nov	4	1	0	A	2	1	5	3	3	3	5	3	7	2	3	4	3	4	7	10	12	15	5	3	4.6	15.5
23-Nov	6	5	A	4	5	5	9	14	8	4	6	4	3	10	7	7	10	11	17	17	9	9	7	7	8.0	16.9
24-Nov	4	A	3	2	2	2	3	5	3	7	7	3	M	M	M	M	M	M	8	20	10	4	5	1	--	19.9
25-Nov	1	1	2	A	2	2	3	3	6	6	6	3	3	3	2	2	4	1	3	7	10	7	4	12	4.0	11.8
26-Nov	9	6	A	11	9	12	13	41	7	10	13	10	C	C	C	C	1	0	0	0	0	0	0	0	7.6	40.6
27-Nov	0	0	0	A	4	3	4	4	3	2	P	P	6	2	8	11	12	6	6	6	4	12	9	4	5.0	11.9
28-Nov	6	6	4	A	4	9	22	29	10	14	5	7	6	9	8	11	13	18	27	15	13	10	17	14	12.0	28.6
29-Nov	14	18	A	43	29	19	32	18	48	16	10	15	11	9	13	13	15	15	27	29	21	7	5	8	19.0	48.4
30-Nov	8	A	12	7	6	17	8	9	11	12	7	C	C	C	10	9	16	20	23	16	19	15	12	7	12.2	22.6
	5.2	4.7	4.7	6.9	6.6	9.1	9.1	9.5	9.7	7.6	6.4	4.7	4.2	4.6	5.4	5.9	7.2	9.8	10.7	9.3	7.6	6.4	5.5	5.5	Diurnal Average	
	14.1	18.3	11.8	42.5	32.1	41.9	31.6	40.6	48.4	26.1	20.8	14.8	11.5	10.1	13.3	16.4	30.8	29.2	27.3	28.8	21.3	22.3	18.5	20.6	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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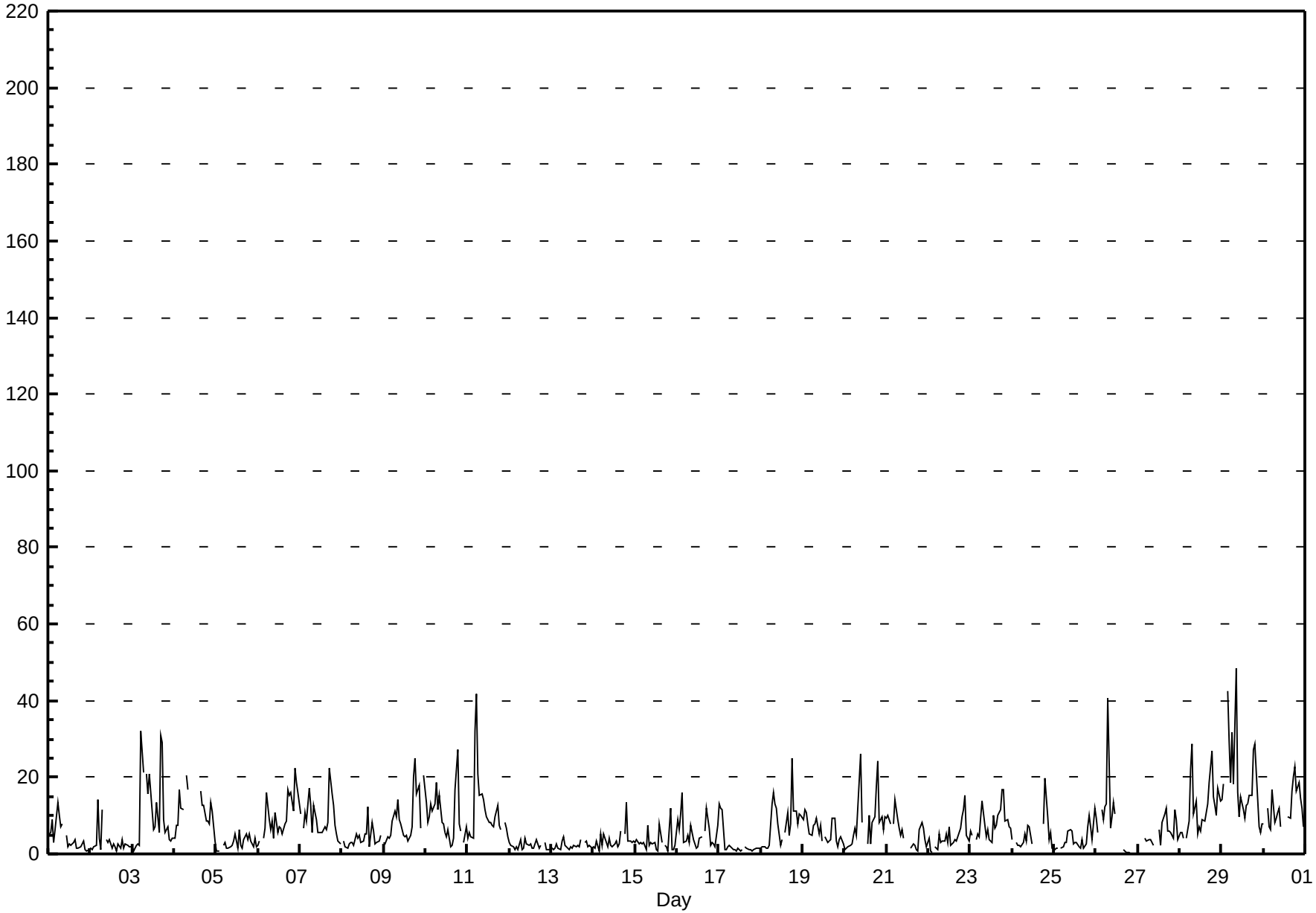
Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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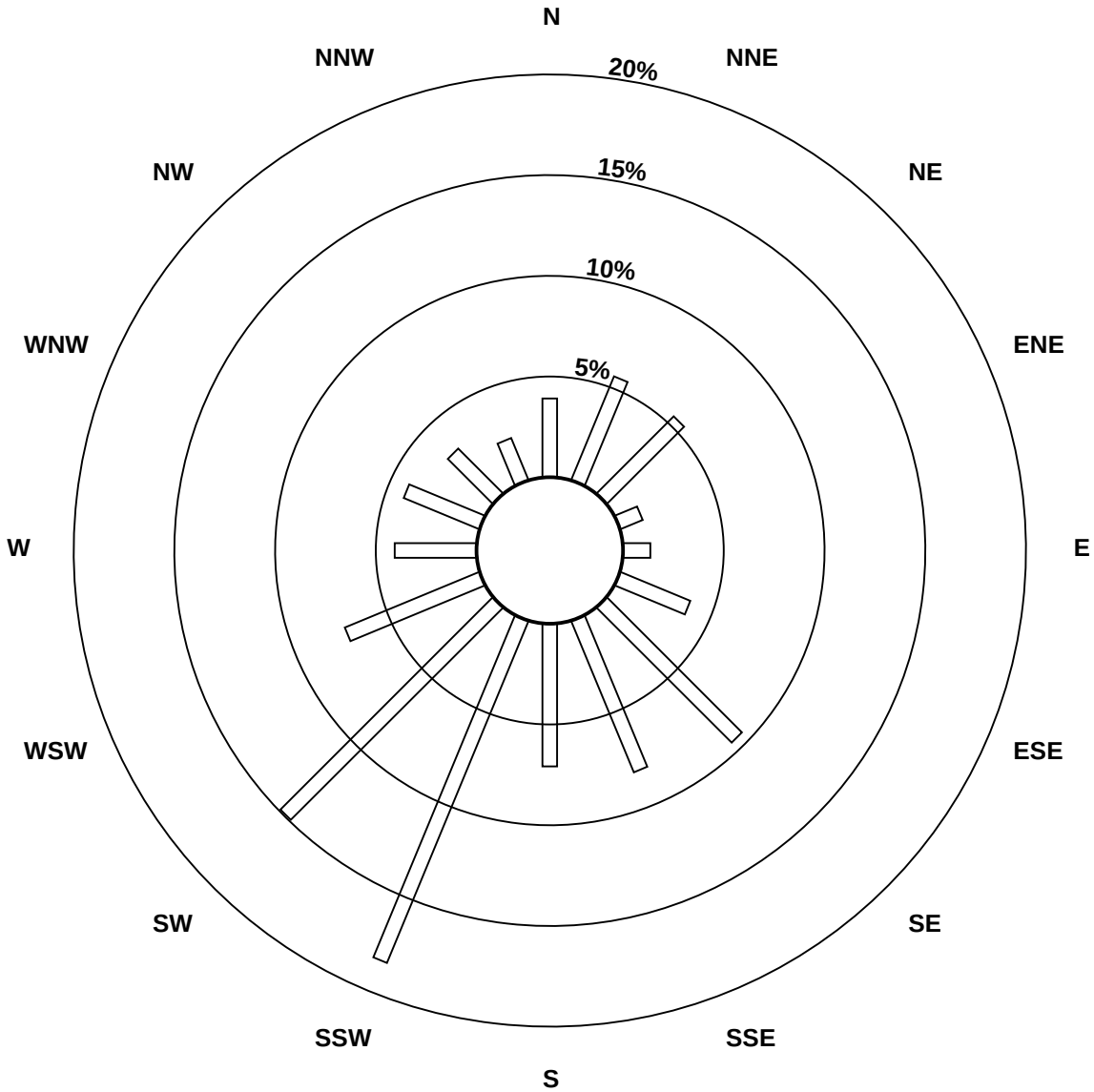
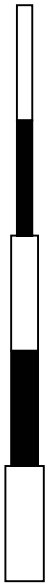
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - November 2010



Pollutant Classes (ppb)



- 0 - 25
- 26 - 50
- 51 - 110
- 111 - 212
- > 212

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Hourly Averages

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 16.4 ppb on Nov 29 12:00
Maximum Daily Average: 6.1 ppb on Nov 29

Minimum Value: 0 ppb on Nov 10 23:00
Maximum Diurnal Average: 1.5 ppb at hour 12
Monthly Average: 0.84 ppb

Minimum Daily Average: 0.1 ppb on Nov 15
Minimum Diurnal Average: 0.2 ppb at hour 3
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.9$ $P_{90} = 1.8$ $P_{99} = 10.9$

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	1	1	0	0	A	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0.3	1.0
2-Nov	0	0	0	0	2	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.8
3-Nov	0	0	0	0	0	4	3	A	2	1	4	2	1	0	1	1	4	6	1	0	0	0	0	0	1.3	5.6
4-Nov	0	0	0	1	0	1	A	2	2	M	C	C	C	C	C	3	1	2	1	1	1	6	1	0	--	6.3
5-Nov	0	0	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.9
6-Nov	0	0	A	0	0	1	0	0	0	0	1	1	0	1	1	1	0	1	1	1	1	2	1	1	0.7	1.7
7-Nov	1	A	0	1	1	13	2	0	4	1	1	1	1	1	1	1	1	4	2	1	0	0	0	0	1.7	13.2
8-Nov	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	1	A	0.6	1.4
9-Nov	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	0	1	4	0	1	0	A	1	0.7	3.7
10-Nov	1	0	0	1	2	3	1	1	1	2	4	3	2	1	0	0	0	2	1	1	1	A	0	0	1.2	3.9
11-Nov	0	0	0	0	1	3	3	0	1	2	2	2	1	1	1	0	1	1	1	0	A	0	0	0	0.9	2.7
12-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0.3	0.5
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.4
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0.2	1.1
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
16-Nov	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0.3	0.8
17-Nov	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.9
18-Nov	0	0	0	0	0	0	1	1	0	1	1	0	1	A	1	1	1	1	2	1	0	0	0	0	0.6	2.0
19-Nov	0	1	1	1	1	0	1	0	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0.5	1.3
20-Nov	0	0	0	0	0	0	0	0	1	2	2	C	C	1	1	0	0	1	2	3	0	0	0	0	0.6	3.1
21-Nov	0	0	0	A	1	1	1	0	0	1	1	C	C	C	0	0	0	0	0	1	1	1	0	0	0.5	1.4
22-Nov	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.5	1.4
23-Nov	0	0	A	0	0	0	1	2	1	1	2	3	3	6	3	2	1	1	3	1	1	1	0	0	1.4	6.4
24-Nov	0	A	0	0	0	0	0	0	0	0	0	1	M	M	M	M	M	M	0	2	1	0	0	0	--	2.0
25-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.2	0.6
26-Nov	0	0	A	0	0	0	1	2	0	1	2	2	C	C	C	C	0	0	0	0	0	0	0	0	0.4	2.0
27-Nov	0	0	0	A	0	0	0	0	0	0	P	P	1	1	2	2	1	0	0	0	0	0	0	0	0.4	2.2
28-Nov	0	0	0	A	0	0	1	3	1	2	1	2	3	2	2	1	1	2	4	1	0	0	1	1	1.4	3.9
29-Nov	0	1	A	4	5	4	14	4	9	11	8	16	12	11	12	7	5	2	4	8	2	0	0	0	6.1	16.4
30-Nov	0	A	0	0	0	1	0	0	0	1	1	C	C	C	4	3	5	5	4	2	2	2	1	1	1.7	5.3
	0.2	0.2	0.2	0.5	0.5	1.1	1.1	0.7	0.9	1.2	1.3	1.5	1.3	1.4	1.3	1.1	0.9	1.2	1.1	1.0	0.5	0.6	0.3	0.2	Diurnal Average	
	1.5	1.2	0.8	4.2	4.9	13.2	13.7	4.0	9.1	11.2	7.6	16.4	12.3	11.0	11.7	6.9	5.1	5.6	4.0	8.0	2.3	6.3	1.5	1.4	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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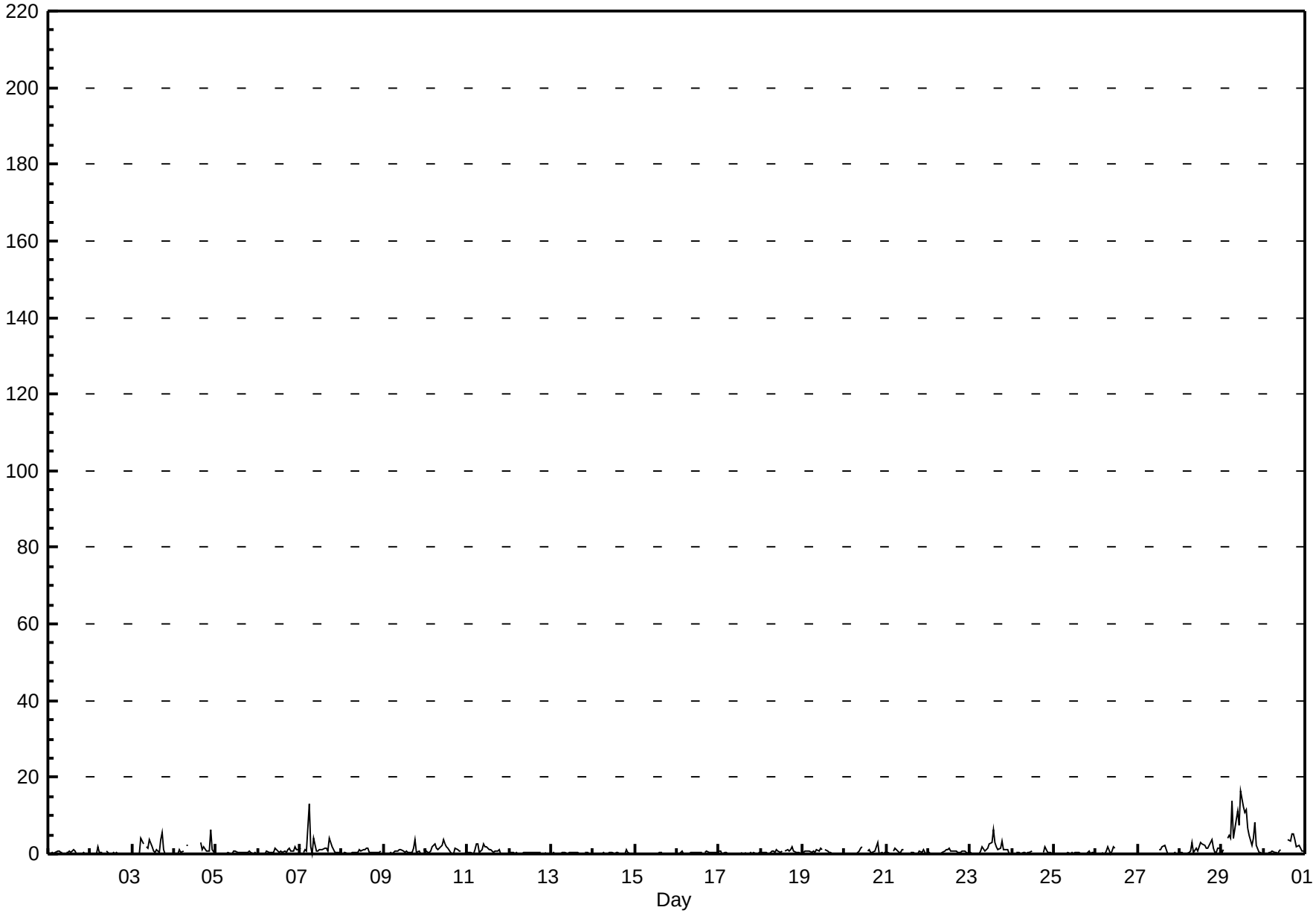
Hourly Averages

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - November 2010

Maximum Value: 104.4 ppb on Nov 3 18:00

Maximum Daily Average: 21.7 ppb on Nov 29

Minimum Value: 0 ppb on Nov 20 02:00

Minimum Daily Average: 0.7 ppb on Nov 15

Maximum Diurnal Average: 13.4 ppb at hour 18

Minimum Diurnal Average: 1.3 ppb at hour 3

Monthly Average: 5.59 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.6$ Median = 2.3 $Q_3 = 5.9$ $P_{90} = 14.2$ $P_{99} = 45.4$

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	3	1	2	16	6	3	2	A	1	1	5	1	6	5	1	1	1	2	5	1	0	0	2.8	16.3
2-Nov	0	0	2	1	28	7	4	11	A	8	2	2	1	3	1	2	3	1	1	1	2	3	0	0	3.7	28.0
3-Nov	0	0	4	5	1	68	25	A	17	6	15	6	4	2	5	2	43	104	6	0	2	0	0	0	13.8	104.4
4-Nov	0	0	1	7	2	14	A	16	22	M	C	C	C	C	C	13	3	25	3	4	2	29	5	0	--	29.4
5-Nov	0	1	0	A	0	2	3	6	1	1	10	14	3	6	3	3	7	12	10	8	1	1	8	1	4.4	14.2
6-Nov	1	0	A	1	1	6	3	5	8	3	11	6	2	7	4	7	6	6	12	7	6	43	26	5	7.7	43.3
7-Nov	8	A	1	13	5	74	12	0	25	8	2	2	9	4	5	5	6	37	19	11	2	1	1	1	11.0	74.0
8-Nov	A	1	1	0	1	1	4	1	5	5	8	1	2	6	12	20	7	5	3	1	8	3	4	A	4.5	19.7
9-Nov	0	0	0	0	6	2	9	6	5	3	6	7	1	8	1	3	5	16	41	5	11	1	A	14	6.6	41.4
10-Nov	7	3	3	9	20	27	25	6	7	9	6	5	3	10	2	0	0	34	16	9	6	A	0	6	9.3	34.5
11-Nov	2	4	2	1	15	31	42	3	5	11	4	7	3	3	3	2	6	10	5	1	A	2	0	0	7.0	42.2
12-Nov	1	1	1	0	7	0	2	0	1	2	6	5	5	3	4	2	2	3	4	A	3	0	0	0	2.4	7.0
13-Nov	0	3	0	1	0	0	4	3	5	0	1	2	1	2	2	1	1	2	A	6	2	4	1	1	1.9	6.5
14-Nov	0	2	1	0	0	1	2	0	0	6	1	1	0	0	0	0	0	A	0	32	1	1	0	0	2.3	32.2
15-Nov	0	0	0	1	1	0	0	3	0	0	1	1	0	0	3	2	A	1	0	0	2	0	0	0	0.7	3.4
16-Nov	3	1	3	7	0	0	0	0	5	1	1	0	1	2	1	A	2	4	2	2	1	1	1	2	1.7	6.7
17-Nov	5	4	4	0	1	0	1	1	0	1	1	1	1	1	A	1	1	0	1	0	0	0	0	1	1.1	5.1
18-Nov	0	0	0	0	0	1	4	6	5	6	3	1	2	A	4	10	3	5	12	7	3	2	2	1	3.4	12.4
19-Nov	1	3	3	2	1	1	3	2	10	5	5	2	A	2	1	1	0	0	0	0	0	0	0	0	1.9	10.0
20-Nov	0	0	0	0	0	0	0	0	15	16	42	C	C	1	7	2	4	10	12	41	0	6	2	6	7.5	42.5
21-Nov	0	4	0	A	5	17	6	4	6	5	5	C	C	C	1	1	0	0	0	4	6	4	2	1	3.6	17.0
22-Nov	2	0	0	A	0	0	1	1	3	6	8	4	11	2	6	3	5	6	4	4	3	22	1	0	4.0	22.1
23-Nov	4	1	A	0	1	0	3	9	2	2	4	4	4	24	6	4	5	5	14	11	6	8	0	1	5.1	23.8
24-Nov	1	A	1	1	0	1	2	2	1	2	3	2	M	M	M	M	M	M	2	22	10	11	1	0	--	22.1
25-Nov	0	0	0	A	2	5	3	2	6	2	6	1	3	4	1	1	2	2	1	3	7	1	1	8	2.7	8.1
26-Nov	2	2	A	1	0	3	6	19	1	4	12	7	C	C	C	C	1	0	0	0	0	0	0	0	3.1	18.8
27-Nov	0	0	0	A	1	0	1	2	0	0	P	P	6	1	15	11	11	0	0	0	0	13	1	0	3.0	14.6
28-Nov	2	2	2	A	0	4	17	25	9	16	2	4	4	4	4	6	6	36	27	9	3	5	9	5	8.8	36.0
29-Nov	1	5	A	18	16	13	46	26	91	31	11	55	20	17	28	17	17	12	29	24	17	6	1	0	21.7	90.9
30-Nov	1	A	1	1	2	8	1	2	1	4	3	C	C	C	7	20	45	39	21	10	14	13	1	1	9.8	45.4
	1.5	1.4	1.3	3.0	4.0	10.1	8.1	5.7	8.9	5.9	6.4	5.6	4.1	4.7	5.0	5.4	6.9	13.4	8.5	7.8	4.3	6.3	2.4	1.9	Diurnal Average	
	8.2	4.5	3.6	17.5	28.0	74.0	45.7	26.0	90.9	31.3	42.5	55.3	20.4	23.8	27.9	19.9	45.4	104.4	41.4	41.1	16.6	43.3	26.3	13.8	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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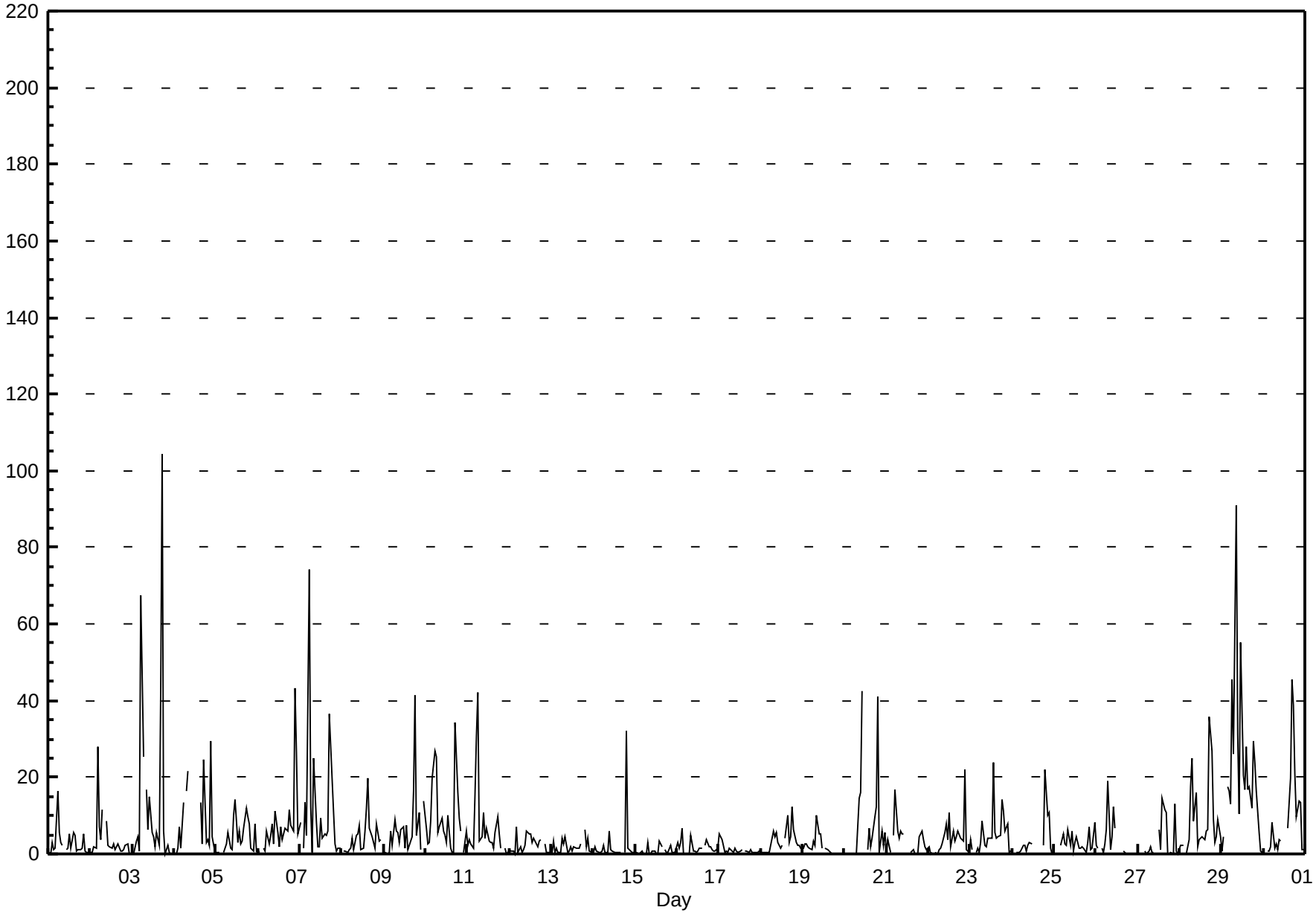
Hourly Maximums

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 30.4 ppb on Nov 29 07:00
Maximum Daily Average: 17.1 ppb on Nov 29

Minimum Value: 0 ppb on Nov 26 19:00
Maximum Diurnal Average: 5.8 ppb at hour 19
Monthly Average: 4.16 ppb

Minimum Daily Average: 1.1 ppb on Nov 2
Minimum Diurnal Average: 2.7 ppb at hour 3
Percentiles: P_1 = 0.0 P_{10} = 0.9 Q_1 = 1.3 Median = 2.6 Q_3 = 5.7 P_{90} = 8.9 P_{99} = 22.2

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	3	4	2	3	4	4	4	3	A	3	1	1	1	2	2	1	1	1	1	1	1	1	1	2.1	4.5
2-Nov	1	1	1	1	3	1	1	2	A	3	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1.1	3.1
3-Nov	1	1	1	1	1	8	9	A	10	8	13	6	4	2	4	3	13	13	5	4	3	3	3	3	5.2	13.3
4-Nov	3	4	4	8	6	7	A	11	9	M	C	C	C	C	C	12	7	8	7	8	7	14	9	1	--	14.4
5-Nov	1	1	1	A	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	3	2	1	2	1	1.3	2.7
6-Nov	1	2	A	3	2	5	3	2	2	2	6	4	2	3	2	2	3	8	7	8	7	9	9	8	4.5	9.5
7-Nov	6	A	5	6	7	23	8	4	11	4	4	4	5	5	6	7	7	13	11	9	6	4	2	2	6.9	23.0
8-Nov	A	2	2	1	1	2	2	2	2	2	3	3	4	5	5	4	2	4	2	2	2	2	3	A	2.5	4.8
9-Nov	2	2	3	3	4	4	5	6	7	6	5	3	1	2	3	2	3	7	10	7	6	5	A	10	4.7	10.5
10-Nov	8	6	8	9	10	10	8	6	8	8	10	7	5	4	1	1	3	5	7	3	4	A	2	2	5.9	10.3
11-Nov	2	2	2	2	7	12	11	8	10	12	9	8	7	6	4	3	5	6	6	5	A	6	6	3	6.2	11.7
12-Nov	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1.2	2.1
13-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1.1	1.9
14-Nov	1	1	1	1	2	1	2	2	2	2	1	1	1	3	2	2	3	A	3	4	3	2	2	2	1.9	4.2
15-Nov	2	2	2	2	2	2	1	2	2	2	1	1	1	0	2	1	A	1	1	1	2	1	1	1	1.4	2.4
16-Nov	1	1	2	4	1	2	3	2	4	2	1	1	1	2	2	A	2	4	2	1	2	1	1	2	2.0	4.1
17-Nov	5	5	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.3	5.1
18-Nov	1	2	1	1	1	1	4	4	3	5	3	1	2	A	3	3	2	4	12	6	5	6	7	9	3.8	11.7
19-Nov	8	11	9	6	5	5	4	4	5	5	5	4	A	5	3	3	4	4	5	2	1	2	3	1	4.5	10.5
20-Nov	1	1	1	1	1	1	4	3	6	8	4	C	C	2	3	1	2	5	9	9	4	4	4	4	3.7	9.4
21-Nov	5	7	6	A	7	7	6	5	4	4	4	C	C	C	1	2	1	1	1	3	2	3	1	1	3.6	7.2
22-Nov	1	1	0	A	1	1	1	2	2	2	3	3	3	2	2	2	2	3	4	4	5	3	2	2	2.2	5.3
23-Nov	2	2	A	2	3	3	6	10	6	4	5	6	5	11	7	7	8	10	13	11	8	7	5	5	6.4	13.0
24-Nov	3	A	3	2	2	2	2	3	2	3	2	2	M	M	M	M	M	M	4	8	3	2	2	1	--	8.4
25-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	1.3	2.9
26-Nov	4	3	A	9	4	3	8	16	3	6	8	7	C	C	C	C	0	0	0	0	0	0	0	0	3.7	15.6
27-Nov	0	0	0	A	3	2	2	3	2	2	P	P	3	3	5	7	6	5	6	4	4	5	4	3	3.3	7.2
28-Nov	5	4	3	A	3	4	8	13	8	7	4	7	7	7	8	7	8	9	17	13	10	8	12	13	8.0	16.6
29-Nov	12	16	A	24	22	19	30	18	25	23	15	25	20	18	21	16	16	13	16	19	9	5	5	6	17.1	30.4
30-Nov	7	A	8	6	6	8	5	6	7	7	6	C	C	C	7	8	12	16	14	12	13	12	8	5	8.6	15.6
	3.1	3.1	2.7	4.1	3.8	4.8	5.0	4.9	5.1	4.7	4.4	4.0	3.4	3.6	3.7	3.8	4.2	5.3	5.8	5.3	4.0	4.0	3.5	3.2	Diurnal Average	
	12.0	15.6	9.3	23.9	22.3	23.0	30.4	17.7	24.7	23.2	15.2	25.1	19.8	18.3	20.5	16.0	16.2	15.6	16.6	18.9	13.0	14.4	11.7	13.2	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

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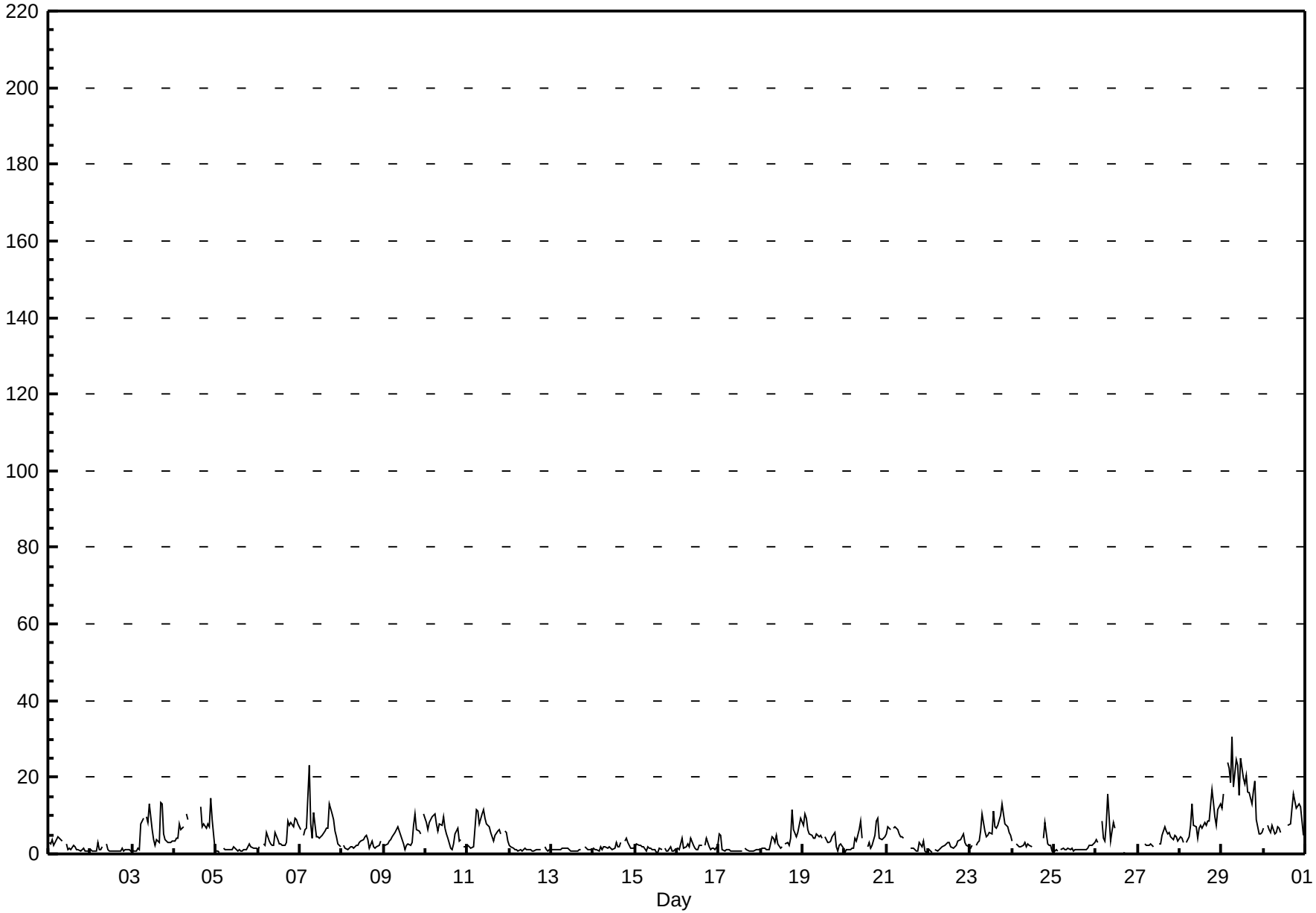
Peace Air Shed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - November 2010

Maximum Value: 140.0 ppb on Nov 29 09:00

Maximum Daily Average: 40.2 ppb on Nov 29

Minimum Value: 0 ppb on Nov 26 20:00

Minimum Daily Average: 3.6 ppb on Nov 15

Maximum Diurnal Average: 22.6 ppb at hour 18

Minimum Diurnal Average: 5.8 ppb at hour 3

Monthly Average: 12.15 ppb

Percentiles: P_1 = 0.1 P_{10} = 1.8 Q_1 = 3.4 Median = 7.4 Q_3 = 14.2 P_{90} = 27.8 P_{99} = 71.9

Hours in Service:	720
Hours of Data:	664
Hours of Missing Data:	56
Hours of Calibration:	47
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	6	9	3	8	30	14	10	10	A	6	3	6	4	6	8	2	2	3	4	5	1	1	1	6.5	29.9
2-Nov	2	1	4	3	42	8	3	23	A	10	5	6	3	3	3	2	5	2	4	2	5	5	2	2	6.3	41.9
3-Nov	2	1	6	7	3	100	44	A	29	21	36	17	9	9	19	8	75	131	15	6	7	4	3	4	24.0	130.5
4-Nov	4	8	8	22	13	25	A	36	39	M	C	C	C	C	C	26	15	37	11	11	9	39	15	3	--	38.7
5-Nov	1	1	1	A	2	4	4	5	3	3	13	20	3	13	5	3	10	17	14	10	4	2	11	3	6.6	19.6
6-Nov	3	3	A	4	8	22	12	7	17	6	22	11	9	14	9	15	12	23	27	24	16	64	44	20	17.1	64.3
7-Nov	17	A	7	24	13	89	25	6	38	17	8	8	15	9	12	9	13	59	32	22	10	5	4	4	19.4	89.0
8-Nov	A	4	2	2	4	4	6	3	10	9	13	4	4	11	16	31	7	13	8	4	10	6	9	A	8.2	31.0
9-Nov	3	3	4	5	9	11	20	16	20	12	14	12	6	13	5	7	10	37	65	21	29	7	A	35	15.8	65.2
10-Nov	20	11	13	22	30	35	44	13	20	17	14	11	7	16	3	2	4	50	44	17	12	A	3	13	18.3	50.5
11-Nov	6	10	7	4	46	73	46	17	20	24	16	16	11	11	10	9	14	23	12	8	A	10	7	5	17.5	72.8
12-Nov	4	3	2	1	8	1	5	1	2	7	8	7	6	5	4	5	4	5	6	A	6	1	1	1	4.1	8.3
13-Nov	1	3	2	4	2	1	8	7	6	2	1	3	2	4	3	3	3	6	A	9	5	3	3	2	3.7	9.1
14-Nov	2	3	3	1	5	3	7	5	2	9	3	2	3	4	2	3	6	A	5	45	5	4	3	3	5.6	44.6
15-Nov	3	4	3	4	3	3	1	9	2	3	3	3	1	1	11	5	A	3	2	1	13	1	1	3	3.6	12.6
16-Nov	12	8	13	23	3	3	5	3	12	4	3	2	3	5	5	A	8	16	9	4	4	3	2	9	7.0	23.0
17-Nov	19	16	15	1	2	2	3	3	1	3	1	2	1	2	A	3	2	1	2	1	1	2	2	2	3.8	18.5
18-Nov	2	2	2	2	2	3	16	22	18	18	11	4	6	A	10	21	7	11	35	17	14	10	12	11	11.1	35.4
19-Nov	10	13	13	10	6	6	10	10	19	10	11	5	A	6	4	4	4	9	10	4	2	4	5	3	7.7	19.4
20-Nov	1	1	2	2	3	5	7	5	34	42	48	C	C	4	14	4	11	17	27	66	8	16	8	16	15.5	65.5
21-Nov	10	13	8	A	11	31	15	11	10	12	9	C	C	C	2	3	2	1	1	11	14	10	6	3	9.2	31.1
22-Nov	6	1	1	A	2	1	6	4	5	9	13	7	18	4	9	7	6	9	9	13	15	38	6	4	8.4	37.6
23-Nov	9	6	A	4	6	5	12	23	10	6	10	8	7	34	12	11	14	16	28	28	13	16	7	7	12.7	33.7
24-Nov	4	A	3	3	3	3	5	7	4	10	10	5	M	M	M	M	M	M	9	41	20	12	7	1	--	40.9
25-Nov	1	1	1	A	3	6	4	3	8	9	11	3	6	5	3	3	5	2	3	10	17	7	5	20	6.0	20.1
26-Nov	12	7	A	13	9	15	19	60	8	14	24	15	C	C	C	C	2	0	0	0	0	0	0	0	10.5	60.2
27-Nov	0	0	0	A	5	3	4	6	3	2	P	P	13	4	23	18	23	6	6	6	4	25	10	4	7.8	24.9
28-Nov	8	8	7	A	4	13	40	54	19	30	7	11	10	13	12	17	20	53	53	22	14	14	27	18	20.5	54.0
29-Nov	15	23	A	61	46	32	72	42	140	43	20	69	32	26	41	28	33	27	57	53	37	13	6	8	40.2	140.0
30-Nov	9	A	13	8	8	25	9	11	12	16	11	C	C	C	14	27	59	56	42	25	31	24	12	7	20.9	58.6
	6.6	5.9	5.8	9.7	10.2	18.7	16.0	14.6	18.0	13.1	12.6	10.0	7.9	9.2	9.9	10.5	13.4	22.6	18.6	16.7	11.4	12.0	7.6	7.3	Diurnal Average	
	20.1	23.1	15.2	60.7	46.1	99.8	72.0	60.2	140.0	43.4	47.9	68.5	31.7	33.7	40.7	31.0	74.6	130.5	65.2	65.5	37.4	64.3	43.8	34.6	Diurnal Maximum	

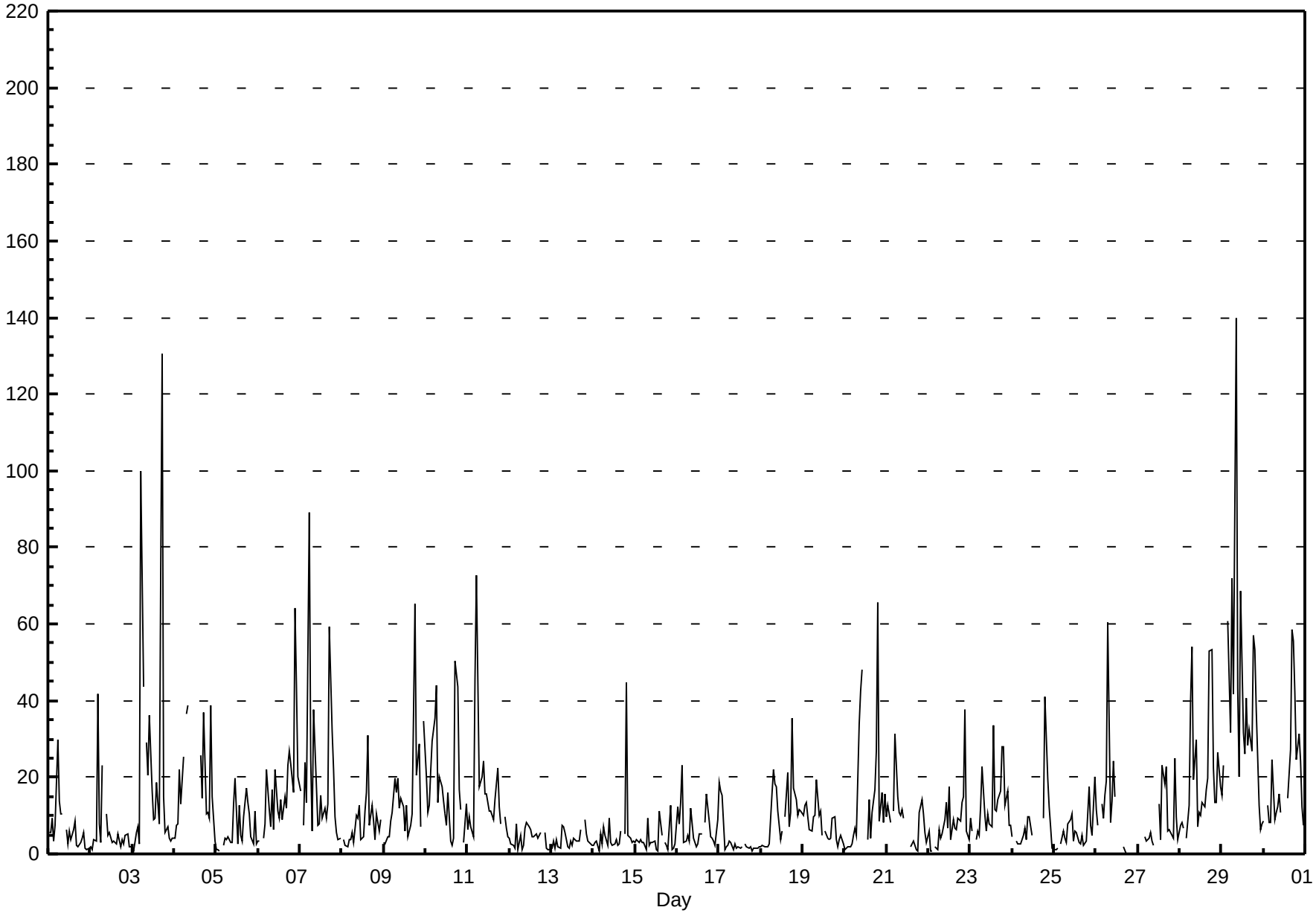
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
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Hourly Averages

Ozone (O_3) - ppb

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 39.8 ppb on Nov 22 03:00
Maximum Daily Average: 32.6 ppb on Nov 22

Minimum Value: 2 ppb on Nov 4 22:00
Maximum Diurnal Average: 28.4 ppb at hour 15
Monthly Average: 25.43 ppb

Minimum Daily Average: 11.7 ppb on Nov 4
Minimum Diurnal Average: 22.4 ppb at hour 19
Percentiles: P_1 = 5.4 P_{10} = 13.9 Q_1 = 22.5 Median = 27.0 Q_3 = 30.4 P_{90} = 33.2 P_{99} = 37.7

Hours in Service:	626
Hours of Data:	474
Hours of Missing Data:	152
Hours of Calibration:	31
Percent Operational Time:	80.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	28	30	28	29	28	27	28	30	29	A	34	38	36	34	32	32	29	33	36	34	33	33	35	34	31.8	37.7
2-Nov	33	33	29	27	29	30	30	29	A	29	33	33	33	32	32	31	30	28	25	27	27	27	28	28	29.8	33.4
3-Nov	28	28	29	24	24	28	24	A	21	25	24	31	33	33	32	31	23	23	26	28	29	26	21	23	26.6	33.3
4-Nov	23	22	15	13	15	11	A	14	17	M	13	6	5	C	C	C	8	6	11	4	3	2	7	29	11.7	28.5
5-Nov	33	35	38	A	36	34	32	30	28	27	27	27	28	29	29	29	28	26	24	24	27	23	24	27	29.0	37.7
6-Nov	29	29	A	28	29	27	27	30	29	30	28	29	33	31	32	33	31	26	25	20	19	18	19	15	26.8	33.1
7-Nov	17	A	12	8	6	3	6	7	9	17	23	20	18	14	13	13	11	10	11	9	11	16	22	23	13.0	23.0
8-Nov	A	25	25	27	28	19	26	30	31	26	23	28	30	27	25	25	27	27	31	32	29	25	24	A	26.8	32.3
9-Nov	29	28	28	28	28	27	27	26	24	24	25	27	31	31	29	26	18	16	16	22	19	17	A	16	24.6	31.2
10-Nov	18	19	12	8	8	9	14	14	10	11	11	14	20	23	28	26	20	22	20	20	19	A	22	23	17.0	28.1
11-Nov	24	28	29	30	23	21	19	15	13	17	20	23	24	26	27	28	25	17	5	23	A	22	24	27	22.1	29.6
12-Nov	28	26	24	23	24	24	23	23	24	25	27	28	29	30	30	32	32	31	31	A	31	33	30	28	27.6	32.8
13-Nov	27	28	29	31	32	34	29	23	27	25	26	26	25	25	25	26	26	24	A	23	27	29	31	29	27.2	33.8
14-Nov	29	25	26	27	23	29	25	28	20	24	22	23	22	23	21	24	21	A	22	16	21	29	31	27	24.4	31.0
15-Nov	26	25	27	24	21	28	39	35	36	36	33	35	35	35	31	29	A	30	29	30	26	27	27	29	30.2	39.0
16-Nov	32	31	29	24	22	23	23	23	22	27	32	32	30	27	29	A	31	29	31	31	31	30	31	28	28.2	32.3
17-Nov	25	18	30	30	30	29	31	32	32	32	32	32	34	33	A	32	32	N	N	N	N	N	N	N	--	33.7
18-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
19-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
20-Nov	N	N	N	N	N	N	N	N	N	M	M	M	M	A	31	31	29	26	25	25	27	31	30	28	--	31.4
21-Nov	27	27	25	A	21	19	24	23	25	30	M	M	M	A	39	34	32	35	35	32	34	35	38	37	30.1	39.4
22-Nov	36	36	40	A	36	37	37	31	30	32	30	31	34	36	32	32	34	31	28	29	31	27	29	29	32.6	39.8
23-Nov	33	25	A	26	27	25	17	17	19	24	26	25	22	17	20	20	12	8	9	10	11	14	14	21	19.2	33.5
24-Nov	27	A	31	30	31	31	32	29	30	30	33	31	N	N	N	N	N	N	N	N	N	N	N	N	--	33.4
25-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
26-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
28-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	20	14	10	11	10	8	11	20	25	--	24.6
	27.6	27.4	26.7	24.3	24.7	24.6	25.6	24.4	23.8	25.9	26.2	27.0	27.6	28.1	28.4	27.7	24.4	23.0	22.4	22.5	23.2	23.8	25.5	26.1	Diurnal Average	
	36.2	36.3	39.8	30.8	36.4	37.3	39.0	34.6	36.2	35.6	34.2	37.7	35.9	36.3	39.4	34.2	33.7	35.2	35.9	34.4	34.3	34.7	37.8	36.6	Diurnal Maximum	

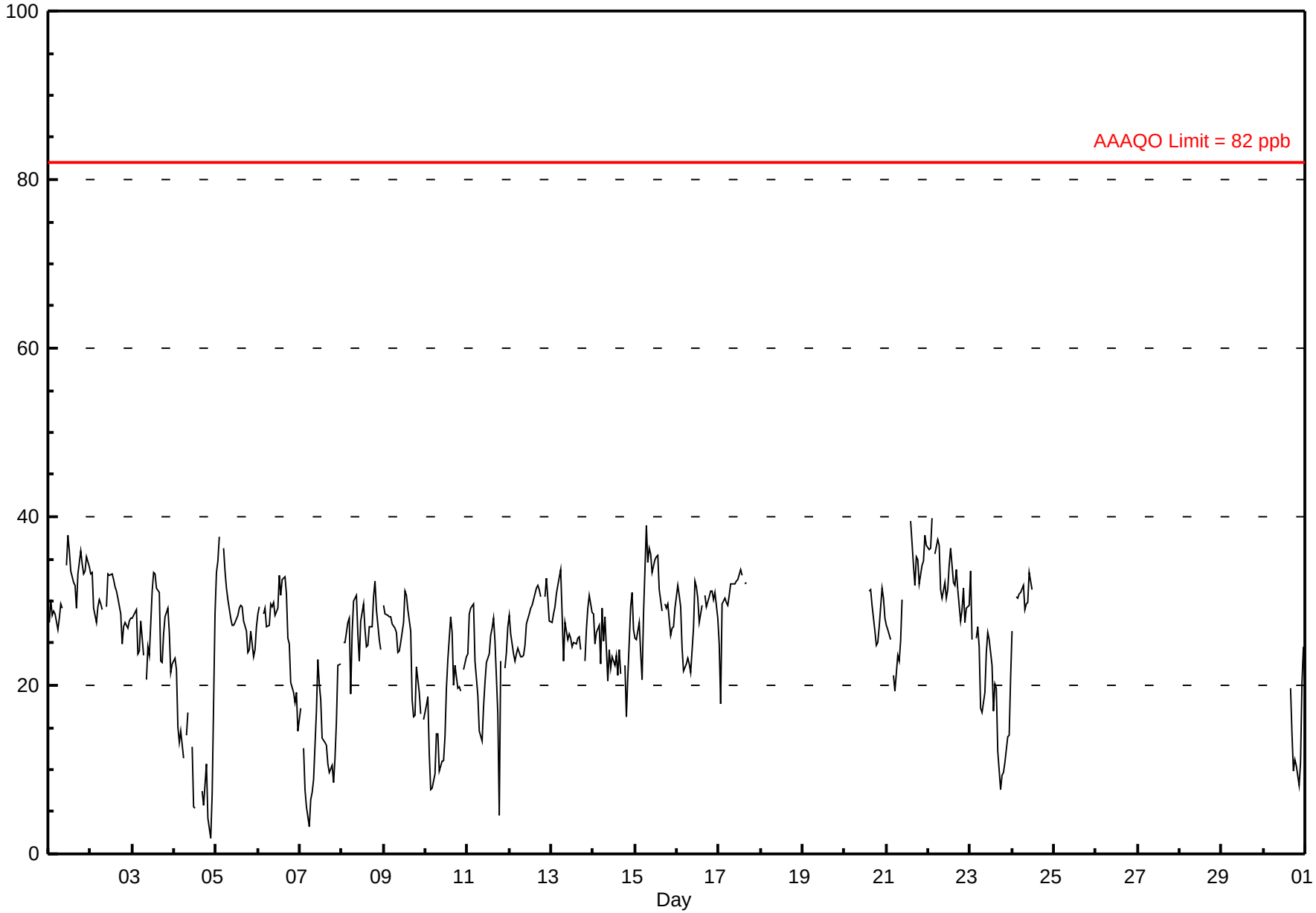
C - Calibration M - Maintenance N - Not Valid NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

PASZA
Peace Air Shed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Portable-Bonanza - November 2010

Maximum Value: 66.3 ppb on Nov 21 15:00

Maximum Daily Average: 38.4 ppb on Nov 22

Minimum Value: 8 ppb on Nov 4 12:00

Minimum Daily Average: 17.1 ppb on Nov 4

Maximum Diurnal Average: 33.3 ppb at hour 15

Minimum Diurnal Average: 27.2 ppb at hour 20

Monthly Average: 29.65 ppb

Percentiles: P_1 = 9.1 P_{10} = 19.3 Q_1 = 26.5 Median = 30.8 Q_3 = 34.1 P_{90} = 37.4 P_{99} = 42.7

Hours in Service:	626
Hours of Data:	474
Hours of Missing Data:	152
Hours of Calibration:	31
Percent Operational Time:	80.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	31	32	32	33	31	29	30	32	32	A	37	41	39	36	35	34	32	36	39	37	36	36	38	36	34.6	40.6
2-Nov	36	36	33	32	33	33	32	31	A	36	36	35	35	34	34	34	34	33	29	30	32	30	30	31	33.1	36.2
3-Nov	30	30	31	27	29	34	33	A	28	29	29	35	37	36	36	34	32	29	30	30	32	29	27	25	30.9	36.8
4-Nov	26	25	20	18	20	21	A	20	20	M	20	8	9	C	C	C	19	10	15	9	8	10	16	32	17.1	31.8
5-Nov	36	38	40	A	39	37	34	33	32	31	29	30	31	32	32	31	31	28	26	30	29	27	30	32	32.1	40.0
6-Nov	31	32	A	30	32	31	31	33	32	33	31	33	36	34	36	36	35	31	33	26	24	25	25	21	30.9	36.4
7-Nov	21	A	19	15	9	9	16	10	14	21	27	24	21	17	16	15	15	16	15	13	15	22	25	25	17.4	26.7
8-Nov	A	29	29	31	31	24	30	33	33	32	26	31	32	31	27	30	30	30	34	35	33	30	27	A	30.4	34.6
9-Nov	31	30	30	30	30	29	30	29	27	27	27	31	34	34	32	31	23	23	24	26	25	24	A	21	28.3	34.4
10-Nov	21	21	17	11	12	13	18	17	15	14	14	17	26	28	30	30	26	27	22	23	22	A	24	28	20.7	30.1
11-Nov	27	32	31	32	31	27	26	21	18	23	23	25	28	29	30	31	29	28	13	27	A	25	27	30	26.5	32.4
12-Nov	30	30	27	26	26	26	26	26	26	27	31	32	32	33	35	34	35	34	34	A	33	35	34	32	30.6	35.0
13-Nov	30	31	32	35	34	36	32	29	31	27	29	28	27	27	27	28	28	26	A	25	29	32	34	31	30.0	35.8
14-Nov	31	30	31	29	29	31	31	30	27	28	25	27	25	27	24	27	24	A	26	22	25	35	35	30	28.2	35.2
15-Nov	32	30	31	27	24	36	43	43	39	39	36	37	38	38	36	32	A	33	32	32	30	30	29	33	33.9	43.0
16-Nov	34	34	34	29	28	25	27	25	25	30	34	34	33	30	33	A	33	33	32	34	33	33	33	31	31.2	34.3
17-Nov	31	30	33	32	33	32	32	34	34	34	34	34	36	35	A	34	34	N	N	N	N	N	N	N	--	35.9
18-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
19-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
20-Nov	N	N	N	N	N	N	N	N	N	M	M	M	M	A	39	39	36	35	36	38	36	40	36	36	--	40.3
21-Nov	36	38	33	A	30	25	29	30	31	36	M	M	M	A	66	39	37	39	39	38	43	42	42	42	37.6	66.3
22-Nov	41	41	43	A	42	43	40	37	37	37	37	38	40	41	39	39	38	36	33	35	37	35	37	38	38.4	42.8
23-Nov	39	31	A	30	32	31	26	25	28	31	33	30	28	27	26	25	18	15	18	18	18	21	19	32	26.1	38.6
24-Nov	33	A	35	37	38	38	36	39	36	36	39	38	N	N	N	N	N	N	N	N	N	N	N	N	--	38.8
25-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
26-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
28-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	22	18	15	16	14	10	14	24	28	--	28.3
	31.5	31.6	30.6	28.1	29.2	29.1	30.1	28.9	28.3	30.0	29.8	30.5	30.8	31.6	33.3	31.2	28.9	27.8	27.3	27.2	27.6	28.7	29.6	30.7	Diurnal Average	
	40.8	41.0	42.6	36.9	41.9	42.8	43.0	42.9	38.7	38.9	38.8	40.6	39.6	41.2	66.3	39.3	38.4	38.5	38.7	38.1	42.7	42.0	42.2	42.1	Diurnal Maximum	

C - Calibration M - Maintenance N - Not Valid NS - Not in service A - Automated Daily Zero Span

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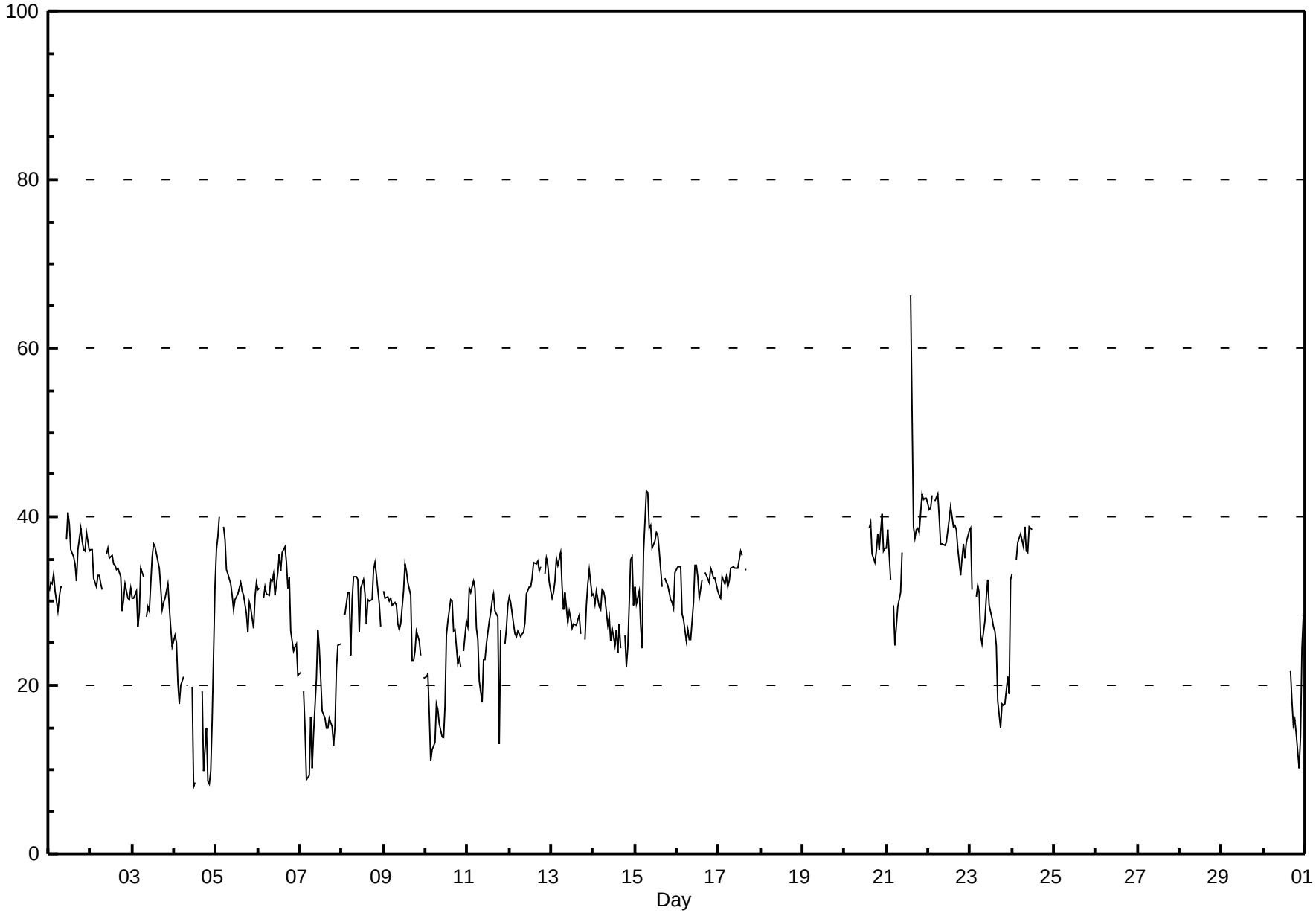
Hourly Maximums

Ozone (O_3) - ppb

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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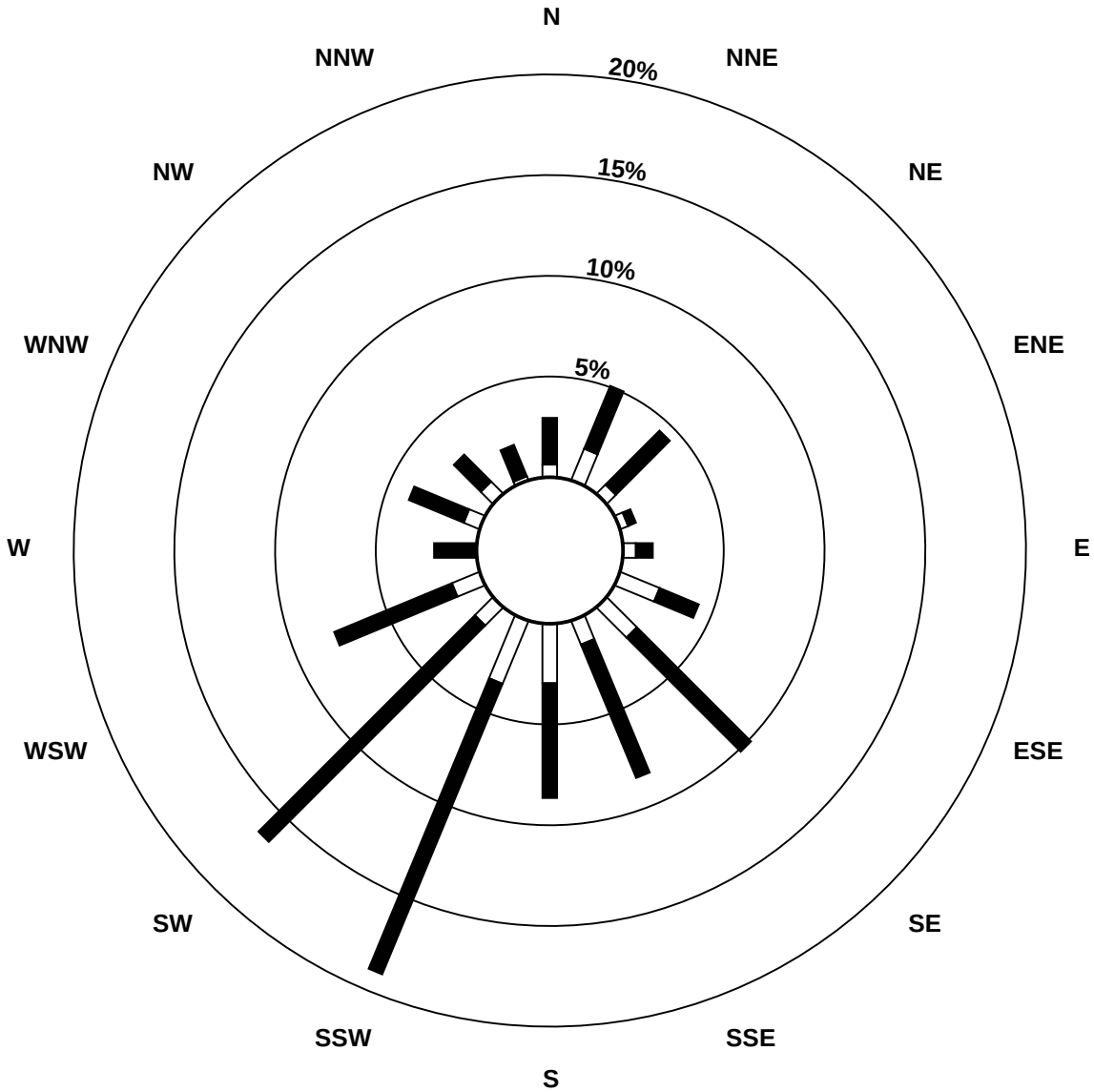
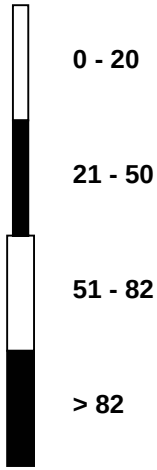
Pollutant Rose

Ozone (O_3) - ppb

Portable-Bonanza - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Eight Hour Running Averages

Ozone (O_3) - ppb

Portable-Bonanza - November 2010

Maximum Value: 37.1 ppb on Nov 22 06:00

Minimum Value: 5.5 ppb on Nov 4 22:00

Percentiles: P_1 = 7.9 P_{10} = 15.3 Q_1 = 22.6 Median = 27.1 Q_3 = 29.7 P_{90} = 32.5 P_{99} = 36.0

Hours in Service:	626
Hours of Data:	482
Hours of Missing Data:	144
Hours of Calibration:	11
Percent Operational Time:	78.8

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	27	28	28	28	28	27	28	28	29	28	29	31	32	33	33	34	34	33	34	33	33	33	33	34	33.7
2-Nov	34	34	33	32	32	31	31	30	30	29	30	31	31	31	32	32	32	32	31	30	29	28	28	28	34.1
3-Nov	27	27	28	27	27	27	27	26	25	25	24	25	26	27	28	29	29	29	29	29	28	27	26	25	29.0
4-Nov	25	25	23	22	20	18	17	16	15	14	14	13	11	N	N	N	N	N	N	N	N	6	6	9	25.0
5-Nov	12	15	19	21	26	30	34	34	33	32	31	30	29	29	28	28	28	28	28	27	27	26	26	25	33.9
6-Nov	26	26	26	27	27	28	28	28	29	29	29	29	29	30	30	31	31	30	30	29	27	26	24	22	30.9
7-Nov	20	19	17	15	14	11	10	9	7	9	10	11	13	14	15	16	16	15	14	12	11	12	13	14	19.9
8-Nov	14	17	19	21	24	24	25	26	26	27	26	26	27	27	27	27	26	26	27	28	28	28	28	28	27.9
9-Nov	28	28	28	28	27	28	28	28	27	27	26	26	27	27	27	27	27	26	24	24	22	21	19	18	28.5
10-Nov	18	18	17	15	14	13	13	13	12	11	11	11	13	15	16	18	19	21	22	22	22	22	21	21	22.4
11-Nov	21	22	24	25	26	25	25	24	22	21	20	19	19	20	21	22	24	24	22	22	21	21	20	20	25.6
12-Nov	21	22	25	25	25	25	25	25	24	24	24	25	26	26	27	28	29	30	30	31	31	31	31	31	31.3
13-Nov	30	30	30	30	30	30	30	29	29	29	28	28	27	26	25	26	25	25	25	25	25	26	26	27	30.1
14-Nov	27	27	27	28	27	27	27	26	25	25	25	24	24	24	23	23	23	23	23	22	21	22	24	24	27.7
15-Nov	25	25	25	26	26	26	27	28	29	31	31	33	35	36	35	34	34	33	32	31	30	29	28	28	35.6
16-Nov	29	29	29	28	28	27	27	26	25	24	24	25	26	27	28	29	30	30	30	30	30	30	31	30	30.6
17-Nov	30	28	28	28	28	28	28	28	29	31	31	31	32	32	33	33	33	33	N	N	N	N	N	N	32.6
18-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
19-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
20-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	28	28	28	28	28	28.3
21-Nov	28	28	28	28	27	25	24	24	23	24	24	24	N	N	N	N	N	N	N	35	35	35	34	35	34.7
22-Nov	35	35	36	37	37	37	37	36	35	35	33	33	33	33	32	32	33	33	32	32	32	31	30	30	37.1
23-Nov	30	29	29	29	28	28	26	24	22	22	23	23	22	21	21	22	21	19	17	15	13	13	12	12	29.9
24-Nov	14	15	18	21	24	26	29	30	30	30	31	31	31	31	N	N	N	N	N	N	N	N	N	N	30.9
25-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
26-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
27-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
28-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
29-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
30-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	12	12	13	14	13.7
	35.2	35.4	36.0	36.5	36.7	37.1	36.9	36.1	35.3	34.7	33.4	33.1	34.7	35.6	34.6	33.9	33.5	33.5	33.7	34.6	34.6	34.6	34.4	34.7	
	Diurnal Maximums																								

N - Not Valid

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Portable-Bonanza - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.9 ^{o}C on Nov 3 15:00 Maximum Daily Average: 6.7 ^{o}C on Nov 2

Minimum Value: -30 ^{o}C on Nov 23 02:00 Minimum Daily Average: -25.4 ^{o}C on Nov 23
Maximum Diurnal Average: -1.9 ^{o}C at hour 15 Minimum Diurnal Average: -7.3 ^{o}C at hour 8
Monthly Average: -5.42 ^{o}C Percentiles: P_1 = -28.6 P_{10} = -19.7 Q_1 = -12.2 Median = -2.9 Q_3 = 2.1 P_{90} = 5.7 P_{99} = 10.5

Hours in Service:	720
Hours of Data:	717
Hours of Missing Data:	3
Hours of Calibration:	0
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	2	3	3	3	3	3	4	5	4	6	8	10	10	11	11	10	9	8	7	7	6	6	8	7	6.4	10.7
2-Nov	7	7	6	5	5	6	5	5	5	6	8	9	10	10	10	10	9	7	6	5	5	5	6	6	6.7	10.0
3-Nov	5	5	5	3	2	3	1	0	1	4	7	10	11	13	13	11	9	6	7	7	7	6	4	4	5.9	12.9
4-Nov	4	3	1	-1	0	-1	-2	-1	1	M	4	4	4	6	9	12	9	5	4	2	1	1	3	9	3.3	12.1
5-Nov	8	6	7	7	6	6	5	5	4	5	5	4	5	6	7	6	5	4	2	1	1	-1	-1	-2	4.3	7.6
6-Nov	-1	-1	-2	-1	-1	-2	-2	-1	-1	0	1	3	5	6	7	7	7	2	0	-2	-3	-3	-2	-4	0.5	6.6
7-Nov	-5	-5	-6	-7	-6	-5	-4	-4	-2	-1	1	1	1	0	1	1	1	0	0	-2	-1	-1	0	-1	-1.8	1.2
8-Nov	0	0	0	0	0	-4	-1	0	0	0	1	3	5	5	5	5	4	2	1	1	0	-1	-2	-2	1.0	5.4
9-Nov	-2	-2	-2	-2	-2	-1	-1	-2	-2	-1	1	3	3	4	4	4	2	-2	-3	-1	-2	-3	-3	-3	-0.6	4.0
10-Nov	-2	-2	-3	-5	-6	-6	-6	-6	-7	-6	-4	-1	1	2	3	2	0	-2	-3	-5	-5	-6	-6	-6	-3.2	2.5
11-Nov	-5	-5	-5	-5	-7	-8	-8	-10	-10	-8	-4	-1	-1	0	1	1	0	-1	-3	0	0	0	1	0	-3.3	1.4
12-Nov	1	2	1	1	1	1	1	1	0	1	3	5	6	6	6	5	4	4	4	4	3	4	3	3	3.0	6.2
13-Nov	3	4	5	5	5	5	4	2	4	5	6	7	8	8	9	9	8	6	4	3	4	5	5	4	5.4	8.9
14-Nov	5	4	5	6	5	5	4	5	3	5	7	7	7	7	7	7	6	4	4	2	3	3	2	2	4.8	7.2
15-Nov	1	0	1	1	2	1	1	1	0	1	1	1	0	0	0	-1	-2	-2	-3	-4	-5	-6	-6	-7	-1.1	1.9
16-Nov	-8	-9	-9	-10	-13	-13	-14	-14	-14	-13	-12	-12	-11	-12	-11	-12	-12	-13	-13	-13	-13	-12	-12	-12	-12.0	-8.0
17-Nov	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-12	-12	-12	-12	-12	-12	-13	-13	-13	-13	-14	-14	-14	-15	-12.7	-11.8
18-Nov	-15	-15	-16	-16	-17	-17	-16	-16	-17	-17	-16	-15	-13	-14	-13	-15	-16	-18	-20	-20	-21	-22	-24	-23	-17.2	-12.8
19-Nov	-23	-23	-23	-22	-21	-20	-19	-19	-18	-18	-17	-15	-13	-12	-12	-12	-12	-12	-12	-11	-11	-11	-11	-11	-15.8	-11.2
20-Nov	-11	-11	-12	-11	-11	-12	-12	-12	-12	-11	-10	-9	-7	-7	-7	-11	-13	-15	-15	-16	-17	-17	-17	-18	-12.4	-7.4
21-Nov	-19	-21	-23	-23	-23	-26	-24	-23	-21	-20	-19	-17	-16	-16	-16	-16	-16	-16	-16	-17	-18	-18	-19	-20	-19.2	-15.7
22-Nov	-20	-21	-22	-24	-24	-26	-28	-28	-28	-29	-28	-26	-25	-23	-23	-23	-24	-25	-25	-25	-25	-28	-26	-28	-25.1	-20.0
23-Nov	-25	-30	-28	-29	-29	-29	-30	-29	-30	-28	-23	-23	-22	-17	-19	-18	-22	-25	-26	-26	-25	-27	-27	-22	-25.4	-17.1
24-Nov	-18	-17	-16	-14	-14	-13	-14	-13	-12	-11	-10	-9	-7	-7	-7	-6	-7	-8	-7	-6	-5	-4	-3	-1	-9.5	-0.7
25-Nov	-1	0	-1	-1	-1	-1	-1	-1	0	0	1	1	2	2	2	1	1	0	0	0	-1	-1	-1	-2	-0.1	2.1
26-Nov	-2	-2	-1	-1	0	0	0	-1	-3	-3	-3	-3	-1	-1	1	1	-3	-3	-4	-2	-3	-5	-5	-7	-2.1	1.3
27-Nov	-7	-9	-9	-9	-9	-9	-9	-9	-9	-9	P	P	-10	-10	-11	-11	-10	-10	-10	-10	-9	-9	-9	-9	-9.4	-6.8
28-Nov	-9	-9	-9	-9	-10	-11	-10	-9	-9	-9	-8	-6	-4	-4	-5	-5	-8	-12	-14	-15	-13	-14	-16	-16	-9.8	-3.8
29-Nov	-18	-18	-20	-20	-21	-21	-22	-22	-22	-21	-19	-14	-13	-10	-10	-13	-15	-16	-14	-10	-8	-9	-9	-9	-15.6	-8.1
30-Nov	-10	-11	-9	-9	-11	-9	-9	-8	-8	-8	-7	-6	-5	-6	-6	-5	-7	-9	-10	-10	-10	-8	-3	-2	-7.7	-2.1
	-5.8	-6.3	-6.5	-6.7	-6.9	-7.2	-7.3	-7.3	-7.3	-6.6	-4.7	-3.4	-2.7	-2.2	-1.9	-2.3	-3.6	-5.1	-5.7	-5.9	-6.0	-6.4	-6.1	-6.1	Diurnal Average	
	7.6	6.9	7.5	7.1	6.4	5.9	5.3	5.1	5.1	6.2	8.5	9.6	10.8	12.8	12.9	12.1	9.4	8.5	7.3	7.0	7.0	6.4	7.5	8.6	Diurnal Maximum	

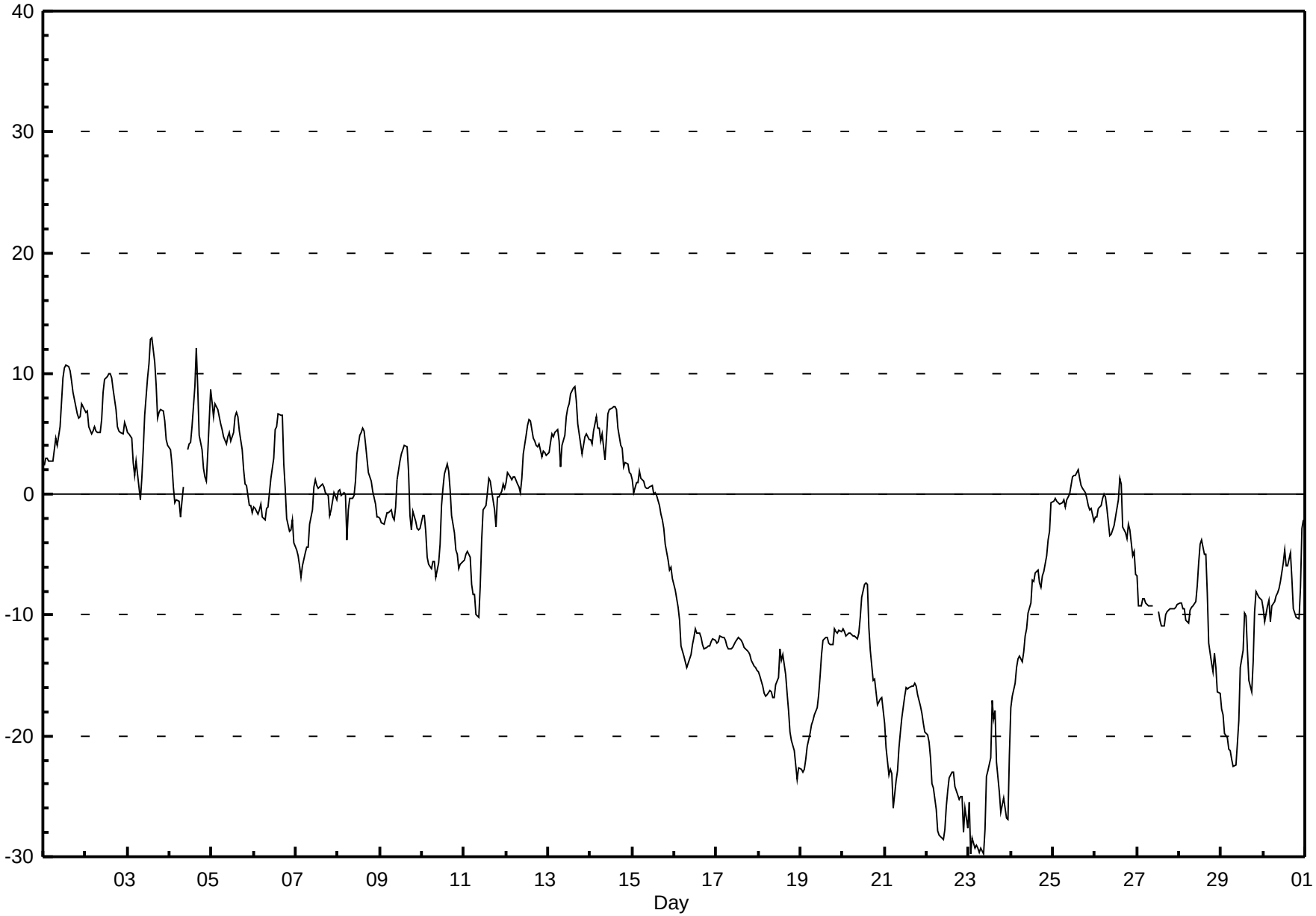
P - Power Failure M - Maintenance

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Portable-Bonanza - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable-Bonanza - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	14	14	8	10	13	16	15	12	11	14	25	32	34	33	29	29	22	17	15	14	12	16	23	23	16.0	34.0
Dir	125	132	153	159	134	127	128	146	149	148	199	204	208	215	216	214	219	202	188	190	179	192	202	206	188	208
2 Spd	20	28	21	23	23	25	25	24	23	22	32	43	47	52	47	38	38	28	24	19	17	22	28	26	28.5	52.0
Dir	205	207	217	220	210	216	219	220	222	220	228	234	239	239	239	240	240	238	230	228	222	231	235	226	228	239
3 Spd	27	31	25	14	9	8	7	7	8	9	6	11	10	9	10	11	6	6	11	11	9	7	6	10	6.8	30.7
Dir	230	222	222	232	220	203	160	119	122	120	104	126	146	135	137	142	115	88	106	121	101	96	109	116	164	222
4 Spd	12	9	4	6	6	2	2	11	9	M	2	5	2	1	14	7	1	7	5	3	3	2	3	34	2.4	33.9
Dir	116	117	210	118	115	219	180	119	112	M	170	305	311	116	131	143	133	303	114	36	204	15	247	250	160	250
5 Spd	43	31	34	31	28	27	24	26	26	32	34	33	35	39	35	34	30	33	20	15	15	15	14	7	26.6	43.0
Dir	242	217	206	204	204	202	200	205	217	226	233	230	229	236	244	244	244	237	238	213	203	222	217	206	224	242
6 Spd	9	11	9	10	9	9	9	10	10	9	7	8	9	15	14	13	8	4	5	5	5	4	5	4	7.1	15.4
Dir	174	157	159	176	159	146	151	167	155	151	143	156	207	218	210	205	170	153	125	109	107	116	133	45	166	218
7 Spd	6	4	3	3	2	2	4	2	10	12	8	10	5	6	8	6	4	5	6	3	9	12	14	16	2.6	16.0
Dir	70	80	92	311	295	6	194	309	13	32	80	111	134	207	211	225	198	158	149	166	195	192	206	212	171	212
8 Spd	16	15	16	15	15	10	13	13	12	8	10	12	15	13	11	13	14	9	12	12	11	9	8	9	11.4	16.4
Dir	212	205	210	206	200	224	200	193	183	204	232	238	237	225	224	226	203	179	193	188	201	199	177	145	206	212
9 Spd	11	12	12	11	12	11	12	12	11	10	8	9	12	12	11	12	5	4	6	6	4	2	5	6	6.8	12.1
Dir	148	146	148	153	148	141	142	144	146	148	159	193	226	229	235	245	246	52	97	135	143	192	170	189	167	229
10 Spd	9	9	4	5	8	5	8	6	6	5	6	4	10	10	17	18	7	8	10	12	13	11	9	11	7.7	18.1
Dir	201	195	179	198	178	180	194	203	172	178	206	247	238	261	257	263	282	229	225	219	218	223	226	222	223	263
11 Spd	6	9	8	7	6	8	9	1	1	8	10	11	8	9	9	7	6	2	3	10	6	12	13	10	6.7	12.9
Dir	205	189	186	181	145	134	129	141	126	137	134	134	141	137	138	141	143	211	61	142	180	139	149	148	148	149
12 Spd	11	14	19	23	25	26	22	21	19	21	25	30	34	35	32	20	20	20	21	21	18	19	20	18	21.7	35.2
Dir	181	200	212	226	223	224	227	230	223	225	229	238	242	238	228	211	206	205	211	210	212	206	214	221	221	238
13 Spd	17	21	25	18	15	18	13	15	16	19	24	40	38	40	39	32	28	23	17	15	16	16	14	12	21.1	39.9
Dir	220	210	211	210	206	199	204	220	216	229	233	241	244	245	245	243	238	234	233	225	211	203	198	200	227	245
14 Spd	13	15	22	23	12	11	11	10	11	9	13	12	10	11	13	18	14	10	9	10	9	16	11	8	10.7	22.6
Dir	205	219	230	241	227	202	215	201	237	210	238	247	266	278	267	278	288	287	281	247	220	214	182	153	237	241
15 Spd	9	10	13	11	11	28	19	6	16	17	16	17	19	17	15	16	15	17	16	16	13	12	12	14	8.2	27.7
Dir	152	142	144	153	237	310	335	291	296	286	300	317	333	342	10	32	29	27	25	29	22	22	31	352	349	310
16 Spd	16	13	13	10	8	9	9	7	6	11	12	9	6	9	11	13	14	14	14	13	8	7	8	10	8.0	16.4
Dir	348	15	10	5	313	290	293	291	264	286	316	341	349	6	18	20	11	13	26	52	69	61	42	24	360	348
17 Spd	14	12	16	15	14	19	20	19	20	22	24	24	26	28	28	29	27	28	26	28	27	26	23	23	22.2	28.5
Dir	11	15	41	48	49	37	38	40	38	40	43	43	43	40	39	40	41	38	39	41	38	39	37	38	39	40
18 Spd	23	21	19	18	10	9	12	11	10	8	10	9	5	3	5	7	7	8	6	9	6	1	5	8	4.6	22.6
Dir	38	37	34	34	28	24	22	26	12	8	9	1	353	251	201	216	201	197	160	145	134	166	189	162	38	38
19 Spd	5	8	6	9	10	11	12	12	11	11	11	11	12	11	13	12	11	10	9	15	15	13	14	13	7.2	15.0
Dir	208	206	201	211	204	209	203	204	203	214	227	234	265	279	299	297	296	293	300	325	333	321	318	319	264	325
20 Spd	15	17	15	13	12	11	9	5	1	2	4	3	2	3	2	4	5	6	5	7	9	11	9	10	1.6	17.2
Dir	325	326	326	320	319	314	307	301	204	161	261	279	247	202	223	180	175	147	155	140	129	139	137	137	292	326
21 Spd	9	4	2	6	4	5	5	8	8	10	8	9	11	14	15	13	10	14	16	23	21	23	23	21	5.4	23.3
Dir	126	129	273	205	198	237	193	188	215	209	218	249	289	302	306	306	310	344	347	13	16	12	9	7	331	12
22 Spd	15	17	17	15	14	14	11	7	7	10	10	13	12	13	12	12	9	9	9	7	8	4	7	6	4.1	17.0
Dir	15	1	352	343	322	311	295	273	228	212	216	209	221	212	223	209	210	194	173	181	167	177	159	160	246	1

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Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable-Bonanza - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	9	4	4	3	1	2	2	2	6	9	5	4	4	4	5	2	1	3	2	5	6	4	4	10	0.7	9.7
Dir	156	155	130	289	136	304	84	356	18	43	39	283	297	14	339	349	32	180	119	169	177	165	174	179	132	179
24 Spd	13	14	14	15	16	11	11	9	7	6	7	6	4	6	4	8	6	4	7	7	8	10	10	29	9.0	29.2
Dir	193	191	193	203	202	192	185	180	188	154	171	172	146	174	167	195	227	201	189	168	183	194	208	245	196	245
25 Spd	37	38	48	43	48	44	37	25	34	29	26	34	40	40	39	32	33	34	28	23	14	5	6	6	30.3	48.5
Dir	237	237	235	238	236	235	237	220	232	229	228	233	239	238	241	231	225	226	226	219	212	175	169	135	231	235
26 Spd	7	9	7	6	10	10	9	3	3	3	1	4	5	11	9	1	3	6	8	11	8	4	5	5	4.6	11.1
Dir	128	138	134	94	135	135	133	167	260	56	350	41	170	143	138	328	126	166	201	200	196	194	197	230	154	200
27 Spd	7	9	2	5	6	7	8	10	11	11	P	P	12	9	9	9	6	6	8	7	7	6	5	5	7.0	11.7
Dir	279	347	345	302	281	282	260	258	265	274	P	P	253	262	260	261	259	272	274	262	266	244	254	261	270	253
28 Spd	6	6	4	4	4	5	5	6	6	6	4	2	3	4	3	5	6	7	2	4	6	4	1	2	2.0	6.8
Dir	205	209	202	202	159	162	157	149	149	143	127	134	4	357	7	13	32	69	198	206	178	192	145	46	154	69
29 Spd	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	5	3	1	6	7	5	10	9	11	2.0	10.7
Dir	190	189	111	210	192	234	218	193	107	11	16	1	351	14	19	32	347	209	85	118	114	118	74	120	95	120
30 Spd	7	4	6	4	2	4	7	1	2	4	5	3	2	6	5	3	3	3	4	6	5	8	12	9	0.9	11.6
Dir	132	244	36	70	168	2	36	66	296	300	328	349	330	14	12	23	293	145	172	175	178	163	149	168	114	149
Spd	5.5	6.1	6.4	6.4	6.9	6.0	5.3	5.6	5.3	5.3	6.4	8.2	9.6	9.6	8.8	7.6	5.9	4.5	3.5	3.5	3.8	3.7	4.2	4.7	Diurnal Average	
Dir	208	204	210	216	210	220	208	203	212	215	225	231	240	241	240	241	240	231	210	187	185	186	189	208		
Spd	43.0	38.3	48.5	43.0	48.4	43.6	37.0	26.2	34.4	31.5	34.5	43.0	47.1	52.0	47.3	38.2	37.7	34.2	28.0	27.9	26.8	26.3	27.9	33.9	Diurnal Maximum	
Dir	242	237	235	238	236	235	237	205	232	226	233	234	239	239	239	240	240	226	226	41	38	39	235	250		

Maximum Speed Value: 52 km/h on Nov 2 14:00
Maximum Daily Speed Average: 30.3 km/h on Nov 25
Maximum Diurnal Speed Average: 9.6 km/h at hour 14

Minimum Speed Value: 1 km/h on Nov 4 17:00
Minimum Daily Speed Average: 0.7 km/h on Nov 29
Minimum Diurnal Speed Average: 3.5 km/h at hour 19

Monthly Average Velocity: 5.68 km/h 219.2 deg

Speed Percentiles: P_1 = 0.8 P_{10} = 3.3 Q_1 = 5.8 Median = 9.9 Q_3 = 15.3 P_{90} = 26.2 P_{99} = 42.7

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	717
Hours of Missing Data:	3
Percent Operational Time:	99.6

P - Power Failure M - Maintenance

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	21	15	20	5	0	0	61
NorthEast	11	11	14	20	1	0	57
East	7	17	0	0	0	0	24
SouthEast	22	74	24	0	0	0	120
South	39	67	24	4	0	0	134
SouthWest	17	45	61	46	37	18	224
West	7	28	12	0	1	0	48
NorthWest	14	11	23	1	0	0	49
Total	138	268	178	76	39	18	717

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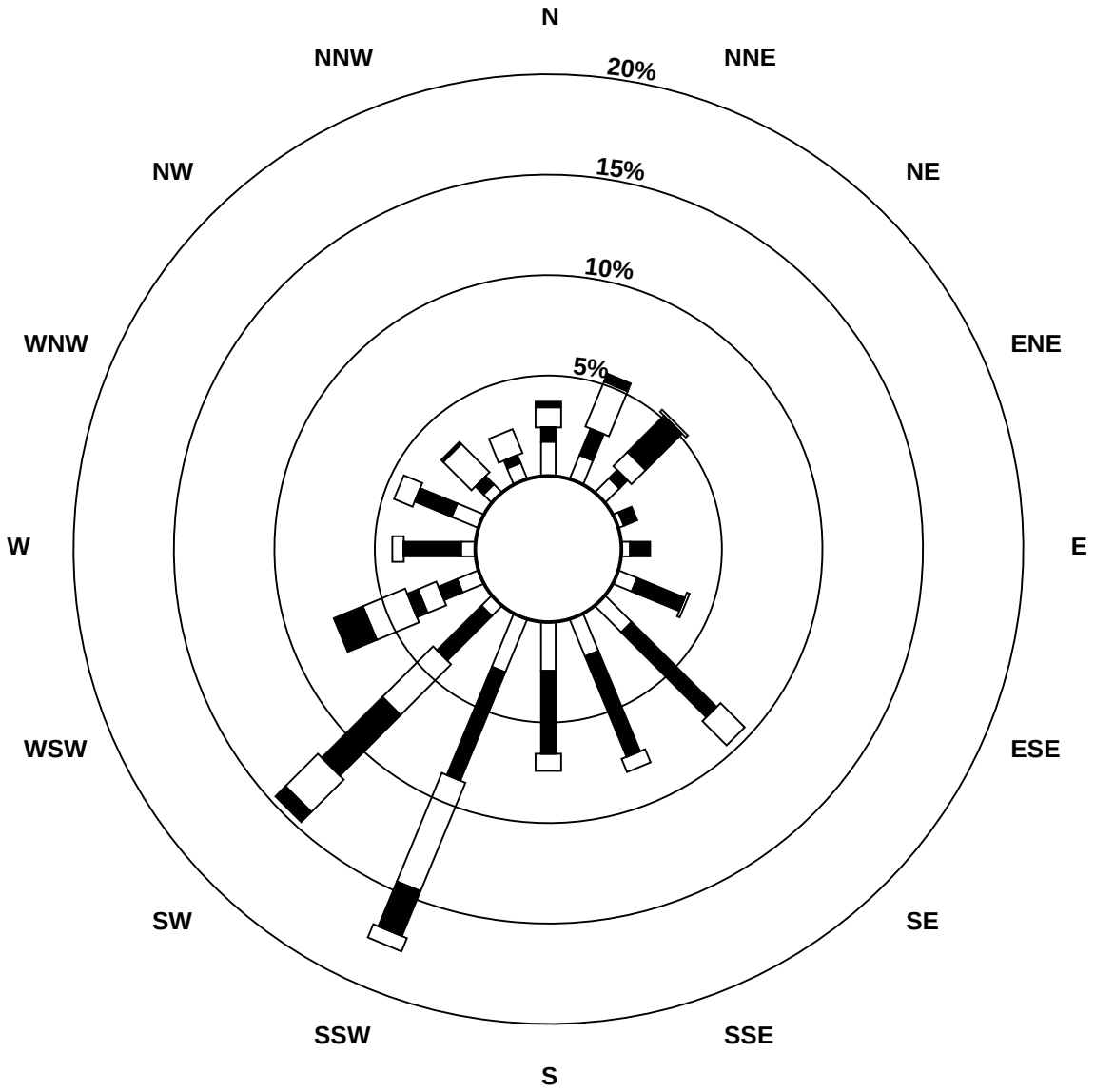
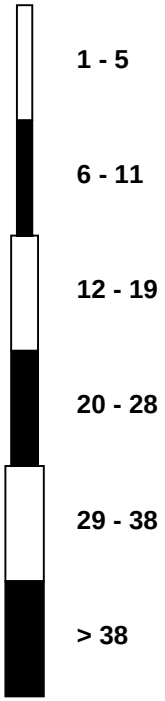
Wind Rose

Wind Speed (WS) (km/h)

Portable-Bonanza - November 2010



Wind Speed Classes (km/h)



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Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable-Bonanza - November 2010

Maximum Speed: 52 km/h on Nov 2 14:00

Maximum Daily Speed Average: 31.2 km/h on Nov 25

Minimum Speed: 1 km/h on Nov 29 06:00

Minimum Daily Speed Average: 3.8 km/h on Nov 29

Maximum Diurnal Speed Average: 15.8 km/h at hour 14

Minimum Diurnal Speed Average: 10.5 km/h at hour 8

Monthly Average Speed: 12.73 km/h

Percentiles: P_1 = 1.4 P_{10} = 4.3 Q_1 = 6.3 Median = 10.1 Q_3 = 15.4 P_{90} = 26.3 P_{99} = 43.0

Hours in Service: 720
Hours of Data: 717
Hours of Missing Data: 3

Percent Operational Time: 99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	14	14	10	10	13	16	15	12	11	14	25	32	34	33	29	30	22	17	15	14	12	17	23	23	18.9	34.3
2-Nov	20	28	21	23	23	25	25	24	23	22	32	43	47	52	47	38	38	28	24	19	17	22	28	26	29.0	52.2
3-Nov	27	31	26	14	9	9	8	7	8	9	6	11	10	9	10	11	6	6	11	11	9	8	7	10	11.4	31.0
4-Nov	12	9	7	7	7	5	3	11	10	M	5	5	5	5	14	8	6	10	7	6	5	5	6	34	8.3	34.2
5-Nov	43	31	34	32	28	27	24	26	26	32	35	33	35	40	35	34	30	33	21	15	15	15	14	8	27.8	43.2
6-Nov	9	11	9	10	9	9	9	10	11	9	7	8	10	16	14	13	8	5	6	5	5	5	6	5	8.7	15.5
7-Nov	6	4	4	4	2	3	6	2	10	13	8	11	7	6	8	6	5	5	6	4	9	12	14	16	7.2	16.0
8-Nov	16	15	16	15	15	10	13	13	12	8	10	12	15	13	11	13	14	9	12	12	11	9	9	9	12.2	16.4
9-Nov	11	12	12	11	12	11	12	12	11	10	8	10	12	12	11	12	5	5	6	6	5	4	5	7	9.3	12.4
10-Nov	9	9	4	6	8	5	8	6	6	6	6	4	10	10	17	18	7	8	10	12	13	11	9	11	8.9	18.3
11-Nov	6	9	8	7	6	8	9	2	3	8	10	12	8	9	9	7	6	4	5	11	7	12	13	10	7.8	13.0
12-Nov	11	14	19	23	25	26	22	21	19	21	25	30	34	35	32	20	20	20	21	21	18	19	20	18	22.3	35.5
13-Nov	17	21	25	18	15	18	13	15	16	19	24	40	38	40	39	32	28	23	17	15	16	16	14	12	22.1	40.0
14-Nov	14	15	22	23	13	11	11	10	11	9	13	12	11	11	13	18	14	10	9	10	9	17	11	8	12.7	22.7
15-Nov	9	10	13	11	13	28	19	8	16	17	17	18	19	17	16	16	15	17	16	16	13	12	12	15	15.1	28.4
16-Nov	17	14	13	10	9	9	9	7	7	11	12	9	6	9	11	13	14	14	14	13	8	7	8	10	10.7	16.7
17-Nov	14	12	16	15	14	19	20	19	20	22	24	24	26	28	28	29	27	28	26	28	27	26	23	23	22.4	28.6
18-Nov	23	21	19	18	10	9	12	11	10	8	10	9	5	4	5	7	7	8	6	9	6	6	6	8	9.8	22.6
19-Nov	7	8	7	9	10	11	12	12	11	11	11	11	12	11	14	12	11	10	10	15	15	13	14	13	11.2	15.0
20-Nov	15	17	15	13	12	11	9	5	3	3	4	4	2	3	2	4	5	6	5	7	9	11	9	10	7.7	17.2
21-Nov	9	5	3	7	5	6	6	8	9	10	8	10	11	14	15	13	10	14	16	23	21	23	23	21	12.1	23.4
22-Nov	16	17	17	15	14	14	11	8	7	10	10	13	12	13	12	12	9	9	9	7	8	4	7	6	10.8	17.1
23-Nov	9	5	5	4	3	5	4	5	6	9	5	4	4	5	6	3	3	4	3	5	6	4	5	10	5.1	9.8
24-Nov	13	14	14	15	16	11	11	9	7	6	7	6	5	7	4	8	6	4	7	7	8	10	10	29	9.9	29.4
25-Nov	37	38	49	43	48	44	37	25	34	29	26	34	40	41	39	32	33	34	28	23	14	5	7	6	31.2	48.6
26-Nov	7	9	7	6	11	10	9	6	3	4	3	7	5	11	9	2	4	6	9	11	8	5	6	5	6.7	11.2
27-Nov	10	9	3	5	6	8	8	10	11	11	P	P	12	9	9	9	7	6	8	7	7	6	5	6	7.8	11.7
28-Nov	6	6	5	4	4	5	5	6	6	6	5	3	3	4	3	5	6	7	3	4	6	4	3	3	4.6	7.3
29-Nov	1	2	1	1	1	1	1	2	2	2	1	1	1	2	3	5	4	4	7	9	8	10	9	11	3.8	10.9
30-Nov	8	5	6	5	4	5	7	2	3	5	5	3	3	6	5	4	4	4	5	7	6	9	12	9	5.5	11.6
	13.8	13.9	13.6	12.8	12.2	12.6	12.0	10.5	11.1	11.8	12.6	14.5	14.8	15.8	15.7	14.5	12.5	12.1	11.4	11.8	10.8	10.9	11.3	12.8	Diurnal Average	
	43.2	38.4	48.6	43.1	48.4	43.6	37.0	26.3	34.5	31.7	34.6	43.2	47.3	52.2	47.5	38.4	37.9	34.3	28.1	27.9	26.9	26.3	28.0	34.2	Diurnal Maximum	

P - Power Failure M - Maintenance

All monthly, daily, and diurnal averages have been calculated using scalar methods

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Portable-Bonanza - November 2010

Maximum Value: 94.7 deg on Nov 4 17:00

Minimum Value: 1.7 deg on Nov 12 07:00

Percentiles: P_1 = 2.3 P_{10} = 3.5 Q_1 = 5.0 Median = 8.9 Q_3 = 18.1 P_{90} = 44.1 P_{99} = 82.5

Hours in Service:	720
Hours of Data:	717
Hours of Missing Data:	3
Hours of Calibration:	0
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	4	6	32	10	7	5	5	11	8	7	16	5	7	9	9	7	5	7	7	5	14	14	4	2	31.7
2-Nov	3	4	3	3	3	4	2	2	2	3	5	6	5	5	5	6	6	5	5	5	5	7	3	4	7.1
3-Nov	4	7	7	7	9	36	29	18	12	9	16	12	11	11	12	6	27	28	12	6	17	31	36	6	36.3
4-Nov	7	15	52	20	44	59	61	10	16	M	68	30	72	87	8	26	95	64	60	62	56	83	79	8	94.7
5-Nov	5	8	4	3	3	4	3	6	3	4	4	7	5	6	4	5	7	6	11	12	7	9	10	45	44.8
6-Nov	18	10	7	12	10	9	9	11	10	11	8	17	25	8	8	8	11	47	38	41	20	25	44	31	47.3
7-Nov	20	35	65	59	34	57	38	31	11	7	24	23	39	14	19	16	36	16	9	63	8	10	5	3	65.4
8-Nov	3	4	4	8	12	10	11	5	7	17	9	8	8	8	7	10	4	17	7	14	12	15	24	4	23.9
9-Nov	5	4	4	5	4	4	4	4	3	6	8	18	14	13	13	7	17	48	32	26	26	72	21	22	72.3
10-Nov	8	7	34	33	9	14	16	9	19	17	12	25	11	17	11	7	27	19	3	5	5	5	4	4	34.2
11-Nov	11	4	6	9	18	5	4	84	83	16	4	4	8	6	8	13	31	61	68	20	25	5	5	5	83.7
12-Nov	15	6	5	5	3	3	2	2	3	2	4	5	5	7	8	6	3	9	5	5	4	4	4	6	14.8
13-Nov	4	5	4	4	8	3	13	9	8	3	5	3	3	4	4	4	3	2	4	8	5	9	4	4	13.1
14-Nov	7	8	14	6	14	7	6	9	9	18	16	7	29	11	3	7	4	5	11	5	17	12	12	11	28.7
15-Nov	8	5	4	8	35	13	7	46	5	5	15	8	8	8	14	5	4	5	5	4	3	4	8	15	45.5
16-Nov	12	11	9	10	14	5	11	11	32	10	13	20	31	20	13	8	10	7	8	8	13	17	8	10	31.9
17-Nov	6	6	8	6	6	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	8.4
18-Nov	3	3	3	3	6	7	9	7	10	6	7	13	21	46	16	13	8	10	10	3	11	78	42	8	78.0
19-Nov	43	10	14	5	4	5	5	6	5	6	7	7	12	12	7	5	4	4	12	2	4	2	3	4	43.3
20-Nov	2	2	2	5	5	7	5	15	77	45	37	44	20	10	25	8	19	6	20	9	5	5	4	2	77.4
21-Nov	9	63	58	14	22	17	20	12	5	11	6	15	14	6	7	7	15	7	3	9	5	4	3	4	63.4
22-Nov	10	5	4	3	5	4	14	20	11	12	10	4	7	6	7	7	7	10	4	9	7	25	9	26	26.1
23-Nov	10	48	77	50	93	73	91	65	16	7	46	14	10	19	17	43	74	29	78	19	16	42	37	5	93.2
24-Nov	5	4	6	4	4	6	11	12	12	13	16	10	16	12	17	9	14	38	7	11	7	10	13	11	37.7
25-Nov	6	5	3	3	2	2	4	4	4	4	5	4	3	3	3	11	4	4	5	5	5	35	29	12	34.9
26-Nov	14	7	8	12	10	4	4	58	28	43	78	58	21	6	19	60	69	15	15	6	9	29	19	15	77.9
27-Nov	39	21	53	9	19	20	5	5	7	6	P	P	5	8	9	4	13	5	8	5	7	11	8	18	52.8
28-Nov	5	8	9	9	17	10	10	7	6	6	11	71	24	15	36	25	6	23	57	21	10	14	74	23	74.4
29-Nov	55	55	76	56	52	8	22	61	72	38	62	67	30	17	15	15	44	86	27	70	67	10	14	13	85.5
30-Nov	39	46	32	41	69	44	15	87	35	29	25	35	46	9	17	39	50	62	43	54	52	21	3	27	86.6
	55.1	63.4	77.3	58.8	93.2	73.5	90.8	86.6	83.3	44.9	77.9	70.9	72.4	86.6	36.4	59.9	94.7	85.5	77.7	69.6	67.4	82.7	78.7	44.8	

P - Power Failure M - Maintenance

PASZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 10.7 ppb on Nov 12 12:00
Maximum Daily Average: 2.7 ppb on Nov 5

Minimum Value: 0 ppb on Nov 1 16:00
Maximum Diurnal Average: 1.5 ppb at hour 13
Monthly Average: 0.60 ppb

Minimum Daily Average: 0.0 ppb on Nov 16
Minimum Diurnal Average: 0.2 ppb at hour 22
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.4 P_{90} = 1.4 P_{99} = 8.2

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	33
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.2
2-Nov	A	0	0	0	0	0	0	0	0	0	3	8	6	5	4	6	3	8	1	0	0	0	7	1	2.3	8.3
3-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
4-Nov	A	0	0	1	2	2	2	3	4	3	3	2	2	1	1	2	1	1	1	1	1	1	1	0	1.4	3.5
5-Nov	A	0	0	0	0	1	0	3	6	8	9	1	2	4	9	7	4	2	0	0	1	1	0	0	2.7	9.3
6-Nov	A	0	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	1	0	0	0	0	0	0	0.5	2.1
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	4	3	2	2	3	3	1	0	0	0	0	0	0.9	4.4
8-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
9-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	0.7
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	0.5
12-Nov	A	0	1	1	1	0	0	0	0	0	2	11	8	3	0	5	6	0	0	0	0	0	0	0	1.8	10.7
13-Nov	A	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	1	3	1	1	1	0	0.6	3.0
14-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.2	0.9
15-Nov	A	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.9
16-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Nov	A	0	0	0	0	0	0	0	0	1	M	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.8
19-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
20-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	4	1	0	0	0	0	0	0	0.7	5.0
21-Nov	A	0	0	0	0	0	0	0	0	0	0	0	2	5	1	0	0	0	0	0	0	0	0	0	0.5	5.4
22-Nov	A	0	0	0	0	0	0	0	0	0	0	1	7	1	1	0	0	0	0	0	0	0	0	0	0.5	6.7
23-Nov	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	0.3	0.6
24-Nov	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
25-Nov	A	0	0	0	0	5	2	1	9	7	5	4	1	0	1	3	0	1	1	0	0	0	0	0	1.7	8.5
26-Nov	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	0.9
27-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
28-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.7
29-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
30-Nov	A	1	2	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8
	--	0.3	0.2	0.2	0.2	0.4	0.3	0.4	0.8	0.8	0.9	1.2	1.5	1.2	1.1	1.2	0.9	0.7	0.3	0.3	0.2	0.2	0.4	0.2	Diurnal Average	
	--	2.9	1.6	1.2	1.5	4.8	2.0	3.2	8.5	8.4	8.8	10.7	8.4	5.4	9.3	7.5	5.7	7.7	1.4	2.6	0.9	0.9	6.7	1.5	Diurnal Maximum	

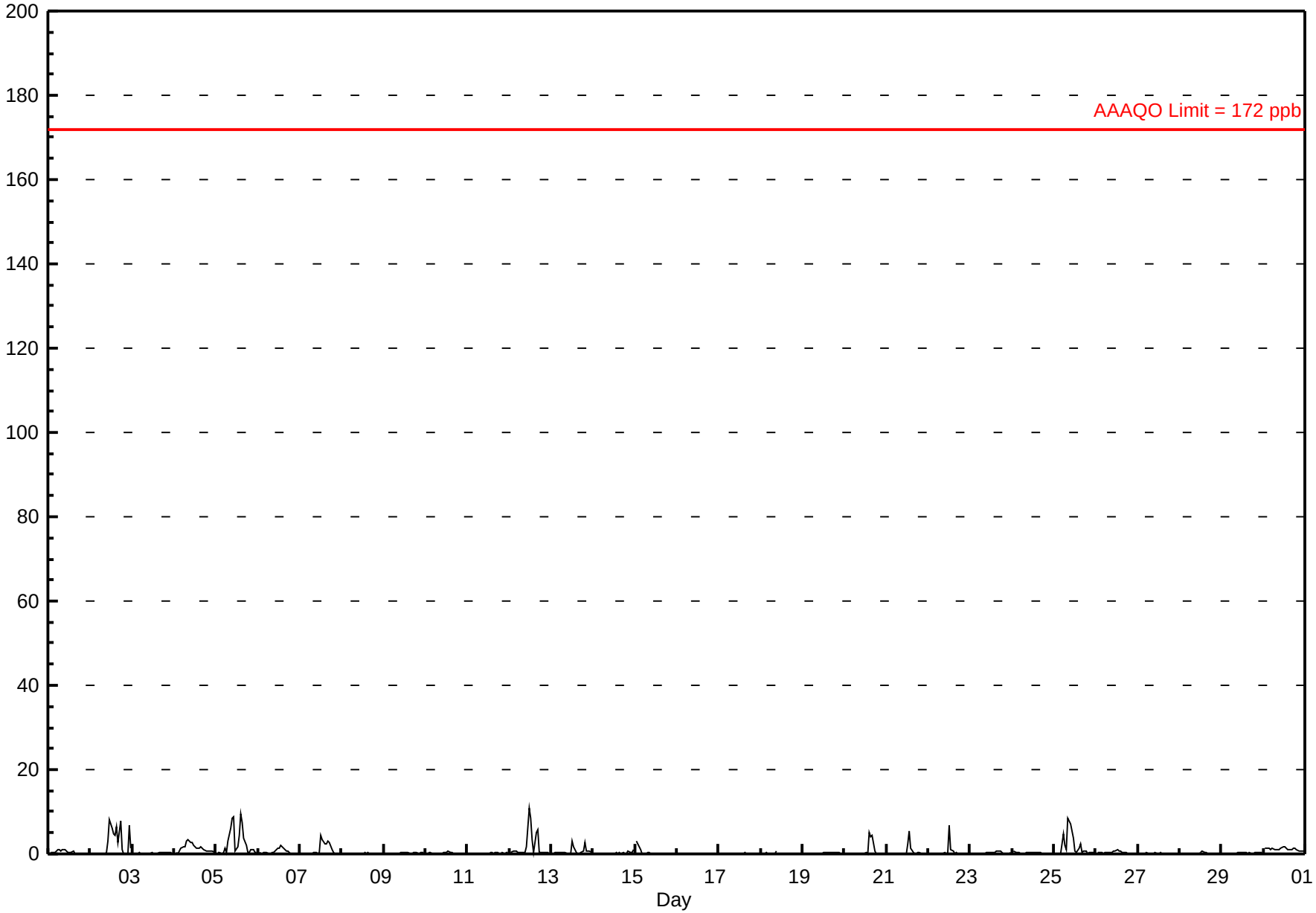
C - Calibration M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

PASZA
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Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - November 2010

Maximum Value: 39.5 ppb on Nov 22 13:00

Maximum Daily Average: 9.0 ppb on Nov 5

Minimum Value: 0 ppb on Nov 1 23:00

Minimum Daily Average: 0.5 ppb on Nov 11

Maximum Diurnal Average: 5.2 ppb at hour 13

Minimum Diurnal Average: 0.7 ppb at hour 4

Monthly Average: 1.87 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 1.0$ $P_{90} = 3.0$ $P_{99} = 19.9$

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	33
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	1	1	1	1	1	1	1	2	2	2	1	1	1	7	1	1	1	0	1	1	0	0	0	1.1	7.2
2-Nov	A	1	0	1	1	0	1	1	0	2	12	18	19	15	18	17	13	17	5	1	1	1	17	5	7.2	18.7
3-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
4-Nov	A	1	1	2	2	2	2	4	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	2.0	4.2
5-Nov	A	1	1	1	1	9	5	16	15	17	20	6	14	16	20	24	18	11	1	1	5	4	1	1	9.0	23.7
6-Nov	A	1	1	1	1	1	1	1	1	1	1	2	2	3	3	2	1	1	1	1	1	1	1	1	1.0	3.0
7-Nov	A	1	1	1	1	1	1	1	0	1	1	1	8	5	3	3	4	5	4	1	0	0	0	0	1.8	8.1
8-Nov	A	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0.5	0.9
9-Nov	A	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.5
10-Nov	A	1	1	1	1	1	0	0	0	0	1	1	1	2	1	1	1	0	0	1	0	1	1	0	0.7	2.4
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	0	1	1	0.5	1.1
12-Nov	A	1	1	1	1	1	1	1	1	1	12	18	22	13	2	19	17	1	1	1	1	1	1	1	5.0	22.3
13-Nov	A	0	1	1	1	1	0	1	1	1	0	0	20	14	1	1	0	1	3	12	5	1	1	1	3.0	20.2
14-Nov	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	3	0.8	2.7
15-Nov	A	7	8	2	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1.2	8.0
16-Nov	A	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	0.5	0.7
17-Nov	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	0.5	0.6
18-Nov	A	1	1	1	1	1	1	1	1	2	M	C	C	C	1	0	1	1	1	0	1	1	0	0	0.6	2.0
19-Nov	A	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
20-Nov	A	1	1	1	1	1	1	1	1	1	0	1	1	1	10	5	15	2	1	1	1	1	1	1	1.9	15.2
21-Nov	A	1	1	1	1	1	1	1	1	1	1	1	7	13	7	1	1	1	1	1	1	1	1	1	1.7	13.4
22-Nov	A	1	1	1	1	1	1	1	0	0	0	4	39	6	6	0	2	0	0	0	0	0	0	0	2.9	39.5
23-Nov	A	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.8	1.5
24-Nov	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0.7	1.3
25-Nov	A	1	1	0	4	11	7	2	19	37	11	15	2	1	8	8	1	2	1	1	1	1	1	1	5.9	36.9
26-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	0	1	0	1	0.9	2.2
27-Nov	A	1	0	0	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	0	1	1	0	0.6	0.8
28-Nov	A	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
29-Nov	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
30-Nov	A	2	2	2	2	2	2	1	1	1	2	2	2	2	2	1	1	2	2	2	1	1	1	1	1.6	2.2
	--	0.9	0.9	0.7	0.8	1.3	1.1	1.4	1.9	2.6	2.7	2.8	5.2	3.6	3.4	3.2	2.9	1.9	1.0	1.0	0.9	0.7	1.2	0.8	Diurnal Average	
	--	6.6	8.0	2.2	3.7	11.5	7.4	16.5	19.4	36.9	20.4	17.8	39.5	15.8	20.0	23.7	18.0	17.2	5.3	11.6	5.2	4.2	17.4	4.6	Diurnal Maximum	

C - Calibration M - Maintenance A - Automated Daily Zero Span

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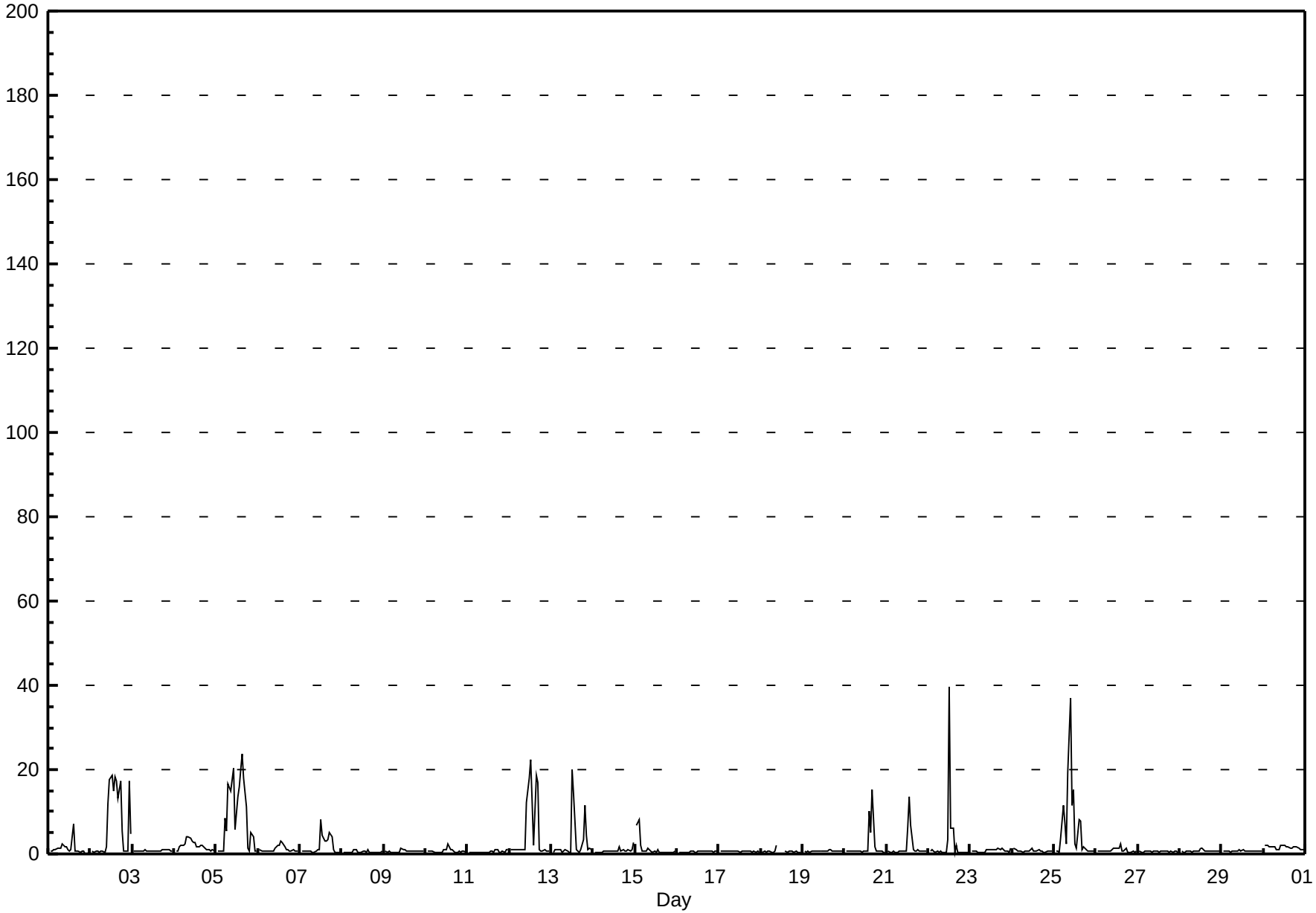
Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

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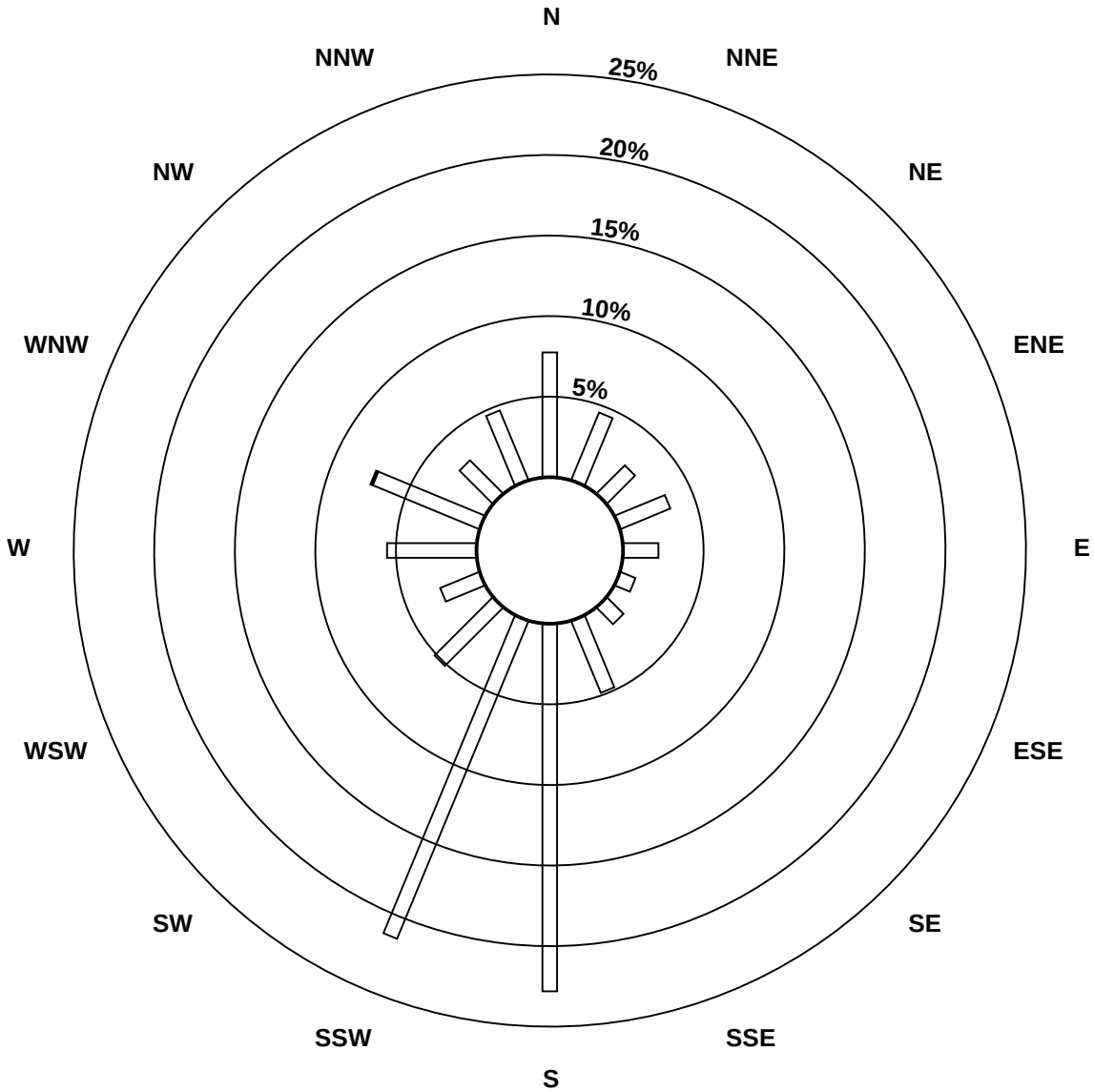
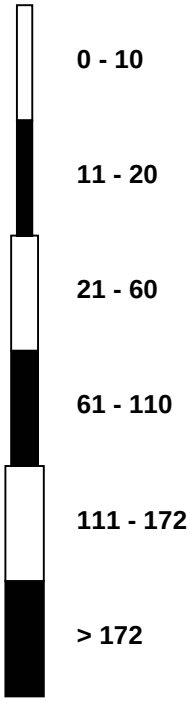
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.4 ppb on Nov 20 17:00 Maximum Daily Average: 0.3 ppb on Nov 20

Minimum Value: 0 ppb on Nov 1 13:00 Minimum Daily Average: 0.0 ppb on Nov 14
Maximum Diurnal Average: 0.2 ppb at hour 21 Minimum Diurnal Average: 0.0 ppb at hour 15
Monthly Average: 0.10 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 0.8

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
3-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
5-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	1.0
6-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.2	1.7
7-Nov	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
8-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
9-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.6
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.5
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	1.0
12-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
13-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5
14-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
15-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
16-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Nov	A	0	0	0	0	0	0	0	0	0	1	0	C	C	C	C	0	0	0	0	0	0	0	0	0.1	0.6
19-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.6
20-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0.3	2.4
21-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
22-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
23-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
25-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
26-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
27-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
28-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
29-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.2	1.0
30-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
	--	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	Diurnal Average	
	--	0.8	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.4	0.6	0.3	0.2	1.0	0.3	0.3	2.4	0.6	0.4	0.7	1.0	0.6	0.8	1.7	Diurnal Maximum	

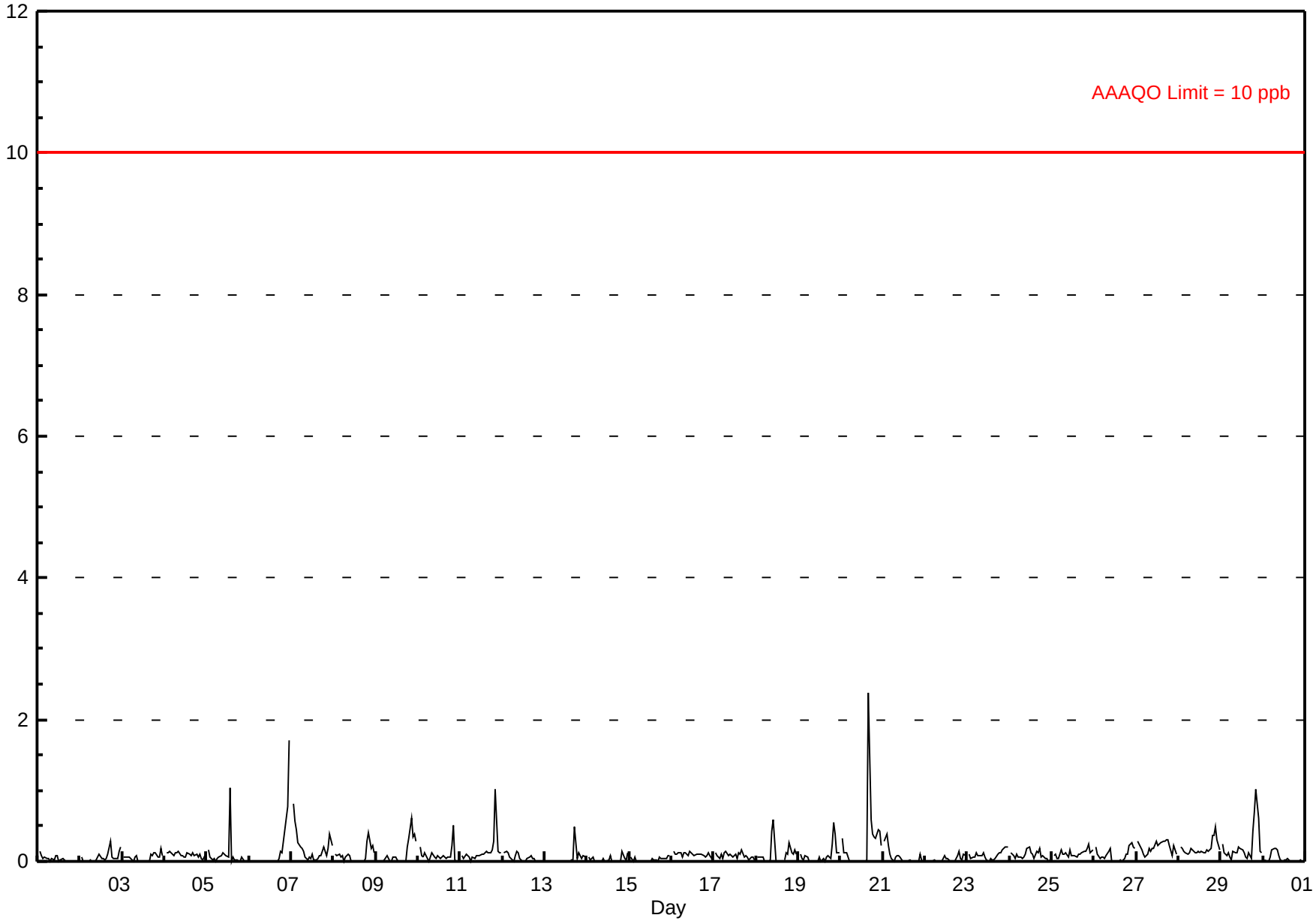
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

PASZA
Peace Air Shed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2010

Maximum Value: 25.6 ppb on Nov 5 14:00

Maximum Daily Average: 1.4 ppb on Nov 5

Minimum Value: 0 ppb on Nov 20 12:00

Minimum Daily Average: 0.3 ppb on Nov 1

Maximum Diurnal Average: 1.2 ppb at hour 14

Minimum Diurnal Average: 0.3 ppb at hour 15

Monthly Average: 0.49 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.4$ $P_{90} = 0.6$ $P_{99} = 1.5$

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
2-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1	0.6	5.9
3-Nov	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
4-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0.4	0.5
5-Nov	A	1	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	1.4	25.6
6-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	0.5	3.5
7-Nov	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0.6	1.2
8-Nov	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0.4	1.1
9-Nov	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0.4	1.0
10-Nov	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.4	1.1
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0.5	3.3
12-Nov	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
13-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	1	0	0.8	11.9
14-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0.4	1.0
15-Nov	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.4	0.8
16-Nov	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.5
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.4	1.0
18-Nov	A	0	0	0	0	0	0	0	0	1	2	0	C	C	C	C	0	0	1	1	0	1	0	0	0.5	2.0
19-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.4	0.9
20-Nov	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	1	1	1	1	1	1	0.9	9.7
21-Nov	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
22-Nov	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
23-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.5
24-Nov	A	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.4	0.6
25-Nov	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0.4	0.8
26-Nov	A	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.4	0.6
27-Nov	A	1	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	0	1	0	0.5	1.0
28-Nov	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0.5	1.3
29-Nov	A	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0.6	1.4
30-Nov	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
	--	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	1.2	0.3	0.4	0.7	1.0	0.5	0.5	0.7	0.5	0.5	0.5	Diurnal Average	
	--	1.2	0.9	0.9	0.6	1.1	0.5	0.9	1.1	1.0	2.0	0.7	0.9	25.6	0.6	1.0	9.7	11.9	1.2	1.2	3.3	1.3	1.2	3.5	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

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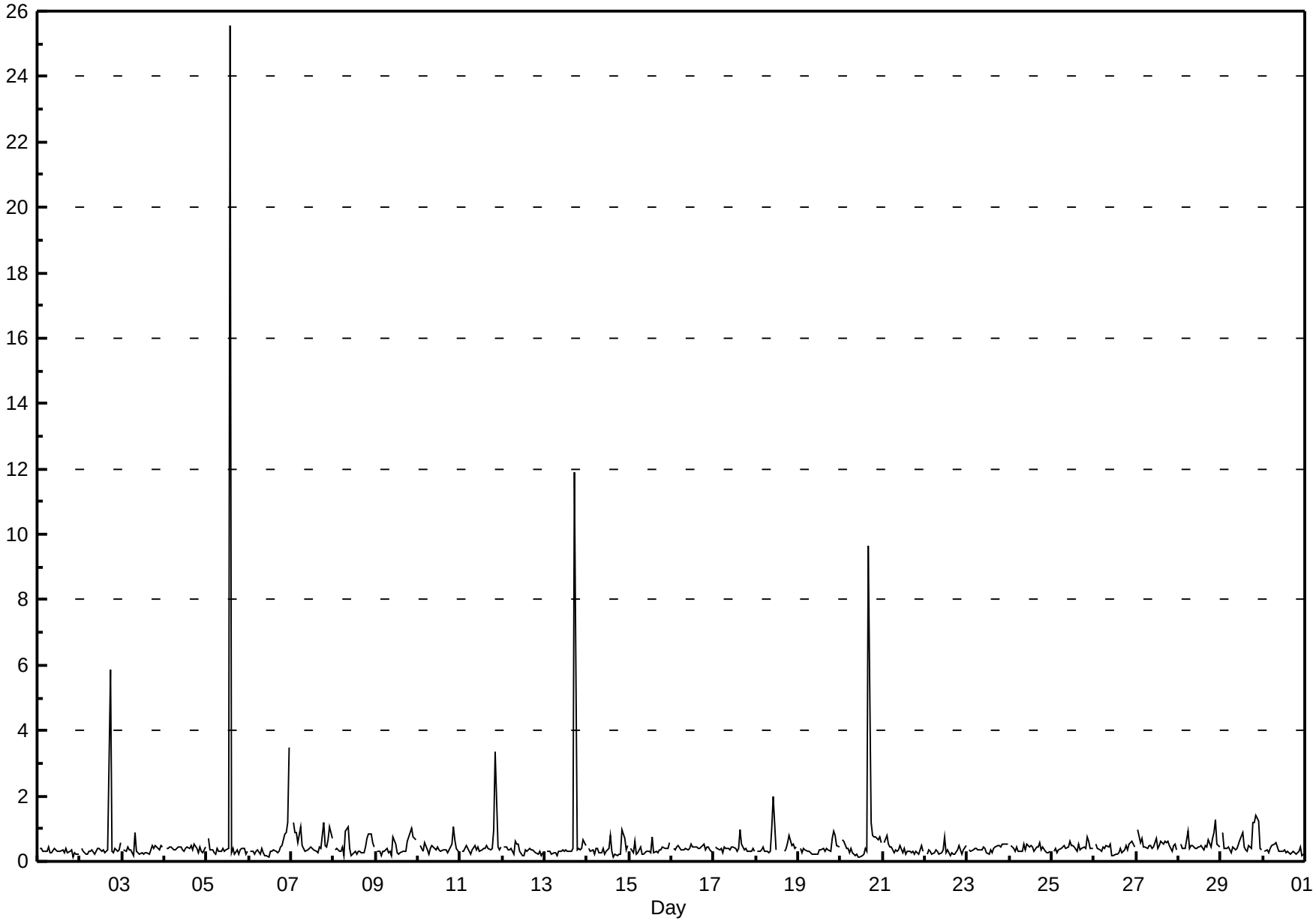
Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

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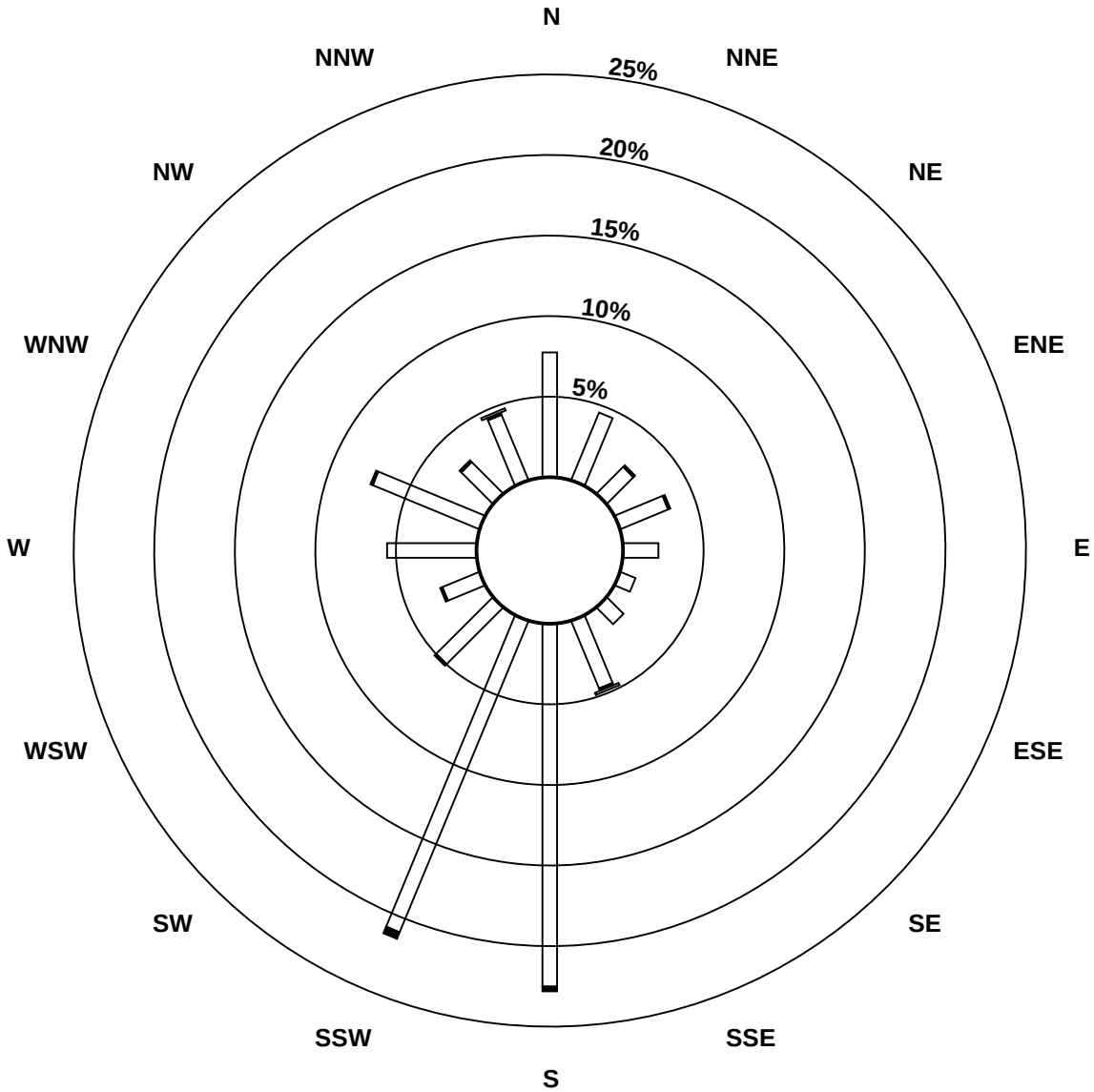
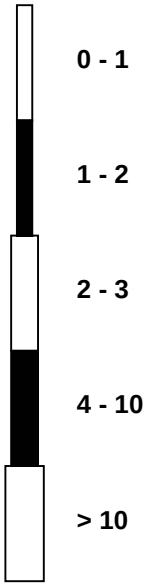
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - November 2010



Pollutant Classes (ppb)



FOCUS AIR QUALITY MONITORING

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Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 16.4 ^{o}C on Nov 4 15:00 Maximum Daily Average: 8.8 ^{o}C on Nov 4

Minimum Value: -31 ^{o}C on Nov 23 09:00 Minimum Daily Average: -23.7 ^{o}C on Nov 22
Maximum Diurnal Average: -1.1 ^{o}C at hour 16 Minimum Diurnal Average: -8.1 ^{o}C at hour 8
Monthly Average: -5.62 ^{o}C Percentiles: P_1 = -28.4 P_{10} = -20.2 Q_1 = -12.5 Median = -4.1 Q_3 = 2.0 P_{90} = 6.0 P_{99} = 13.1

Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	-1	0	2	3	4	4	4	3	4	5	5	5	10	13	13	12	11	9	8	8	7	7	6	5	6.2	13.2
2-Nov	5	4	3	3	3	4	3	3	6	8	9	10	11	11	11	11	10	9	8	7	7	6	6	5	6.9	11.3
3-Nov	5	4	3	3	1	1	0	-2	-2	0	3	6	9	10	11	11	10	8	7	6	6	4	4	3	4.7	11.0
4-Nov	2	3	3	4	4	4	3	3	3	4	6	9	11	14	16	16	16	15	15	14	13	13	12	10	8.8	16.4
5-Nov	9	9	9	8	7	6	6	6	6	6	7	7	6	6	6	6	5	4	2	1	1	1	-1	-3	5.0	8.8
6-Nov	-4	-5	-5	-6	-6	-7	-7	-8	-7	-7	-4	-1	2	3	4	4	3	2	-1	-2	-3	-4	-5	-5	-3.0	4.5
7-Nov	-6	-6	-5	-5	-5	-5	-4	-4	-4	-3	-2	0	4	5	5	6	4	4	3	1	0	-1	-2	-2	-0.9	5.5
8-Nov	-3	-4	-4	-4	-5	-6	-5	-6	-7	-5	-2	1	4	6	7	7	6	3	0	-2	-3	-3	-5	-5	-1.5	7.0
9-Nov	-5	-4	-3	-3	-3	-4	-4	-5	-5	-4	-1	0	1	2	3	4	3	1	-2	-3	-4	-4	-4	-4	-2.1	3.7
10-Nov	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-1	1	1	2	2	2	0	-2	-4	-4	-1	-1	-4	-2.0	2.4
11-Nov	-5	-6	-7	-9	-10	-10	-11	-12	-12	-10	-8	-6	-4	-1	-1	-1	0	-1	-2	-3	-3	-2	-1	-1	-5.4	-0.4
12-Nov	-1	-1	-1	-1	-1	-2	-3	-4	-5	-4	0	4	5	6	6	6	5	4	2	1	1	0	1	0	0.8	6.3
13-Nov	0	0	1	1	0	1	2	2	2	2	4	6	8	10	10	10	9	8	8	7	7	6	5	3	4.6	10.2
14-Nov	2	1	0	-1	-1	0	0	0	0	1	1	2	3	5	5	5	5	4	5	5	5	4	4	3	2.5	5.4
15-Nov	3	2	2	2	1	1	1	1	2	1	1	1	1	0	-1	-2	-3	-3	-4	-4	-5	-6	-7	-9	-1.0	2.9
16-Nov	-10	-10	-11	-11	-11	-12	-12	-12	-12	-12	-12	-12	-11	-11	-11	-11	-12	-12	-13	-13	-13	-13	-13	-13	-11.6	-10.1
17-Nov	-13	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-13	-13	-13	-14	-14	-14	-14	-14	-12.6	-11.6
18-Nov	-14	-14	-14	-14	-15	-15	-15	-16	-16	-17	-16	-15	-15	-15	-15	M	-16	-17	-19	-19	-19	-19	-20	-22	-16.4	-14.0
19-Nov	-23	-24	-24	-25	-26	-26	-27	-27	-27	-25	-22	-19	-17	-16	-15	-15	-15	-15	-16	-17	-17	-18	-18	-19	-20.7	-14.8
20-Nov	-21	-22	-23	-23	-23	-23	-22	-21	-20	-19	-18	-17	-15	-14	-13	-13	-14	-16	-18	-20	-21	-21	-20	-19	-18.9	-13.1
21-Nov	-18	-17	-17	-16	-16	-16	-15	-15	-15	-14	-14	-13	-13	-13	-13	-13	-14	-14	-15	-15	-17	-18	-18	-18	-15.3	-12.7
22-Nov	-18	-19	-20	-21	-22	-22	-23	-24	-26	-27	-26	-24	-23	-22	-22	-22	-22	-24	-26	-26	-27	-27	-27	-27	-23.7	-18.3
23-Nov	-28	-28	-29	-30	-30	-30	-30	-30	-31	-28	-26	-22	-20	-18	-16	-15	-15	-16	-18	-19	-21	-21	-23	-23	-23.6	-14.9
24-Nov	-23	-24	-24	-25	-25	-26	-26	-26	-25	-23	-20	-17	-14	-11	-10	-10	-12	-12	-12	-12	-12	-10	-8	-7	-17.2	-6.9
25-Nov	-6	-5	-5	-4	-2	1	2	2	2	2	3	4	4	4	4	4	3	-1	-2	-4	-5	-5	-5	-4	-0.6	3.8
26-Nov	-4	-4	-4	-3	-3	-2	-2	-1	-1	-1	0	1	2	2	4	2	1	1	0	-1	-3	-5	-6	-8	-1.5	3.6
27-Nov	-8	-9	-8	-7	-7	-8	-8	-9	-10	-9	-9	-8	-8	-6	-5	-6	-6	-6	-7	-7	-7	-7	-7	-8	-7.5	-5.5
28-Nov	-8	-9	-9	-9	-8	-8	-9	-9	-9	-9	-8	-7	-5	-5	-5	-5	-6	-7	-8	-9	-10	-10	-10	-10	-8.1	-5.1
29-Nov	-11	-11	-11	-11	-12	-13	-13	-15	-16	-17	-14	-12	-10	-10	-9	-9	-10	-11	-13	-14	-14	-11	-8	-6	-11.7	-5.6
30-Nov	-5	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-2	-1	0	-1	-1	-2	-2	-3	-4	-4	-4	-4	-3.2	-0.4
	-7.1	-7.4	-7.5	-7.5	-7.7	-7.8	-7.9	-8.1	-8.1	-7.5	-6.1	-4.5	-2.9	-1.8	-1.4	-1.1	-2.2	-3.3	-4.5	-5.4	-6.0	-6.1	-6.4	-6.8	Diurnal Average	
	8.5	8.6	8.8	8.4	7.5	6.3	6.0	6.0	6.3	7.7	8.8	9.9	11.0	14.2	16.4	15.9	15.5	15.1	14.7	13.5	13.0	13.0	11.9	9.6	Diurnal Maximum	

M - Maintenance

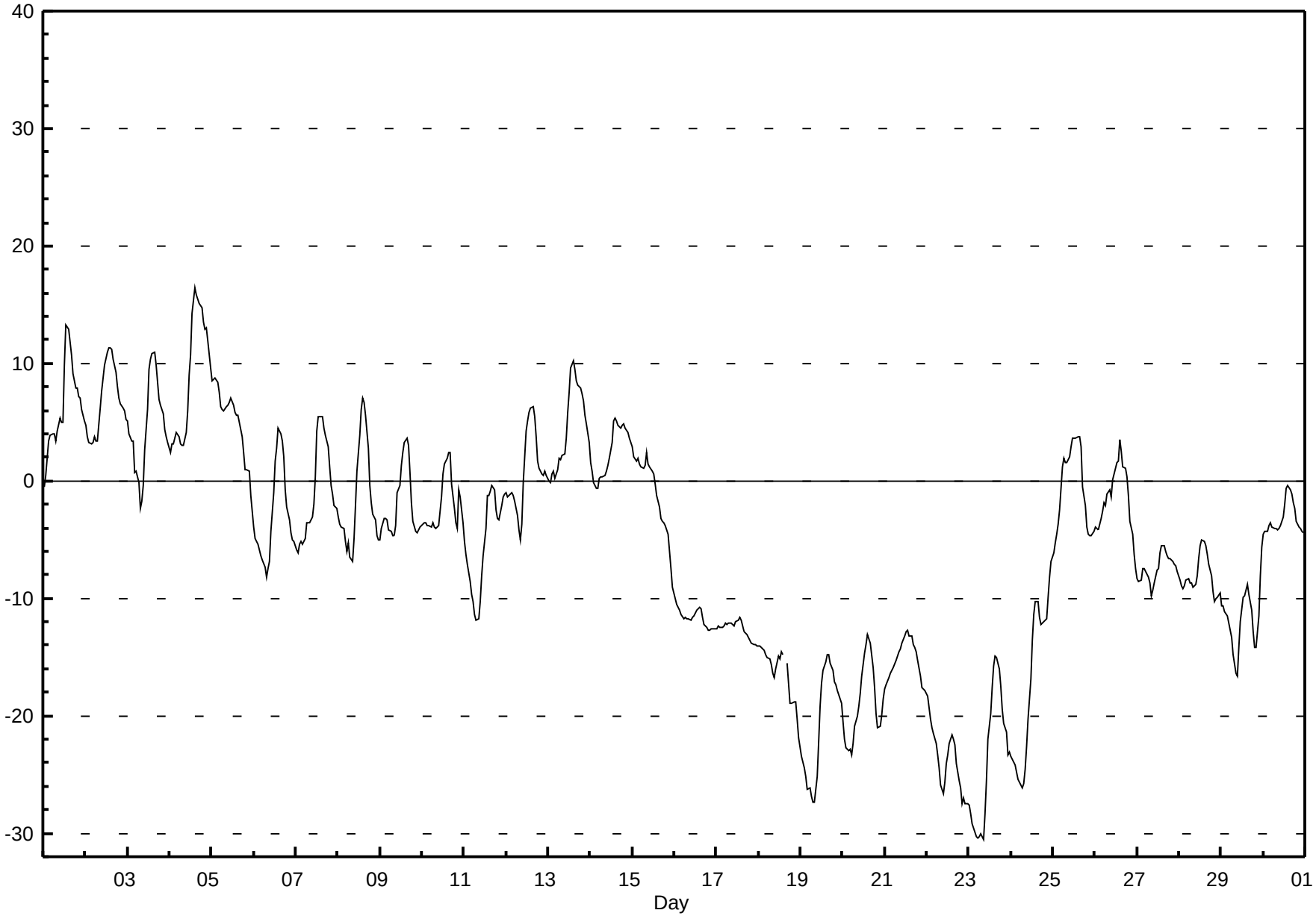
FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

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Hourly Averages

Relative Humidity (RH) - %

Valleyview - November 2010

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 96.4 % on Nov 15 07:00 Maximum Daily Average: 89.4 % on Nov 27

Minimum Value: 29 % on Nov 4 15:00 Minimum Daily Average: 44.7 % on Nov 4
Maximum Diurnal Average: 76.0 % at hour 8 Minimum Diurnal Average: 59.2 % at hour 15
Monthly Average: 70.64 % Percentiles: P_1 = 31.7 P_{10} = 48.5 Q_1 = 60.5 Median = 73.4 Q_3 = 81.5 P_{90} = 89.5 P_{99} = 94.5

Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	77	74	68	65	65	65	65	67	61	56	59	60	44	34	38	44	49	56	59	61	65	65	67	69	59.6	76.8
2-Nov	72	74	72	70	68	65	65	64	53	46	42	38	33	31	30	30	32	36	41	45	49	51	51	53	50.4	73.7
3-Nov	52	55	57	57	66	65	70	79	75	71	63	51	42	38	37	37	39	42	45	47	50	54	56	58	54.5	78.8
4-Nov	61	57	57	54	52	54	56	56	57	54	48	40	37	32	29	31	32	32	33	36	38	38	40	47	44.7	61.0
5-Nov	51	56	64	67	68	68	63	61	51	46	45	36	33	32	33	32	33	36	38	39	36	38	46	52	46.8	68.0
6-Nov	59	60	63	66	69	75	78	84	82	81	76	71	66	66	62	65	67	72	85	89	92	94	94	94	75.4	94.4
7-Nov	94	93	91	89	90	89	85	87	88	87	86	78	53	45	47	48	50	56	71	74	80	82	85	87	76.6	94.4
8-Nov	88	90	92	92	93	92	89	90	91	84	75	63	53	45	43	44	47	56	68	71	74	77	81	82	74.1	93.1
9-Nov	82	79	77	78	78	82	82	85	84	84	77	76	70	66	62	59	61	70	81	85	87	85	85	84	77.5	87.5
10-Nov	84	84	84	87	87	85	82	84	84	82	78	73	65	62	60	59	58	68	76	79	78	56	58	69	74.3	86.9
11-Nov	74	77	81	85	90	89	91	90	88	86	81	79	74	65	66	63	57	56	67	70	68	61	59	58	73.9	90.9
12-Nov	59	62	60	60	61	64	69	74	78	72	59	41	39	37	36	36	38	42	47	48	50	50	50	51	53.4	78.1
13-Nov	53	52	50	50	52	52	57	57	59	60	58	52	48	45	42	44	48	50	51	52	54	57	59	65	52.8	65.5
14-Nov	72	74	77	79	78	78	81	86	91	92	93	95	94	90	89	92	91	94	94	93	92	92	91	91	87.5	94.9
15-Nov	88	89	91	91	95	96	96	96	84	84	85	82	85	89	80	78	80	80	80	78	80	73	72	79	84.6	96.4
16-Nov	81	83	82	81	78	75	76	73	73	70	70	70	67	65	65	67	71	70	69	71	70	70	71	72	72.5	82.6
17-Nov	69	68	75	78	76	68	75	66	66	67	65	62	69	74	79	79	80	78	78	77	79	78	78	80	73.5	79.8
18-Nov	80	80	80	81	79	78	78	81	81	80	78	73	73	71	71	M	71	77	79	78	78	78	78	77	77.4	81.1
19-Nov	77	76	75	76	76	75	74	74	74	73	73	73	69	66	67	69	73	79	80	80	79	79	79	78	74.7	80.2
20-Nov	77	77	76	76	76	75	76	76	77	77	77	76	71	72	71	73	75	81	82	79	77	76	77	78	76.1	81.7
21-Nov	79	79	80	80	81	81	80	80	80	80	77	66	57	59	67	71	76	78	80	79	76	76	77	76	75.6	80.7
22-Nov	75	74	73	72	71	71	70	70	73	75	73	71	65	62	60	62	65	71	74	73	73	72	72	71	70.4	75.1
23-Nov	70	70	70	70	70	69	69	69	70	68	64	58	53	52	52	55	61	67	72	74	77	77	76	76	67.0	76.7
24-Nov	75	75	75	74	74	74	74	73	73	72	71	66	61	58	61	64	70	74	74	76	80	81	86	88	72.9	87.9
25-Nov	87	89	91	90	84	61	57	58	58	56	53	50	51	52	52	51	54	69	75	83	86	87	86	84	69.4	91.1
26-Nov	83	84	86	81	78	75	76	73	71	73	67	66	64	67	66	77	91	93	94	95	95	94	92	91	80.6	95.1
27-Nov	90	90	90	91	90	90	90	89	88	88	88	88	88	87	90	90	91	90	90	90	90	90	90	90	89.4	90.7
28-Nov	91	89	88	88	88	88	88	88	88	87	87	84	81	80	82	84	88	90	90	90	89	89	89	89	87.3	90.7
29-Nov	88	88	88	87	86	86	85	83	82	81	79	80	79	80	80	82	85	88	88	85	85	83	73	65	82.8	88.5
30-Nov	59	57	56	55	56	60	63	65	67	68	67	64	61	57	57	60	63	65	67	68	69	70	76	81	63.8	81.0
	74.9	75.2	75.6	75.6	75.8	74.8	75.4	76.0	74.8	73.4	70.4	66.1	61.5	59.3	59.2	60.1	63.2	67.1	70.9	72.1	73.2	72.5	73.2	74.5	Diurnal Average	
	94.4	93.5	91.7	92.0	94.5	95.8	96.4	95.9	91.1	92.2	93.2	94.9	94.0	90.1	89.8	92.1	91.4	94.1	94.1	94.6	95.1	94.5	93.5	93.5	Diurnal Maximum	

M - Maintenance

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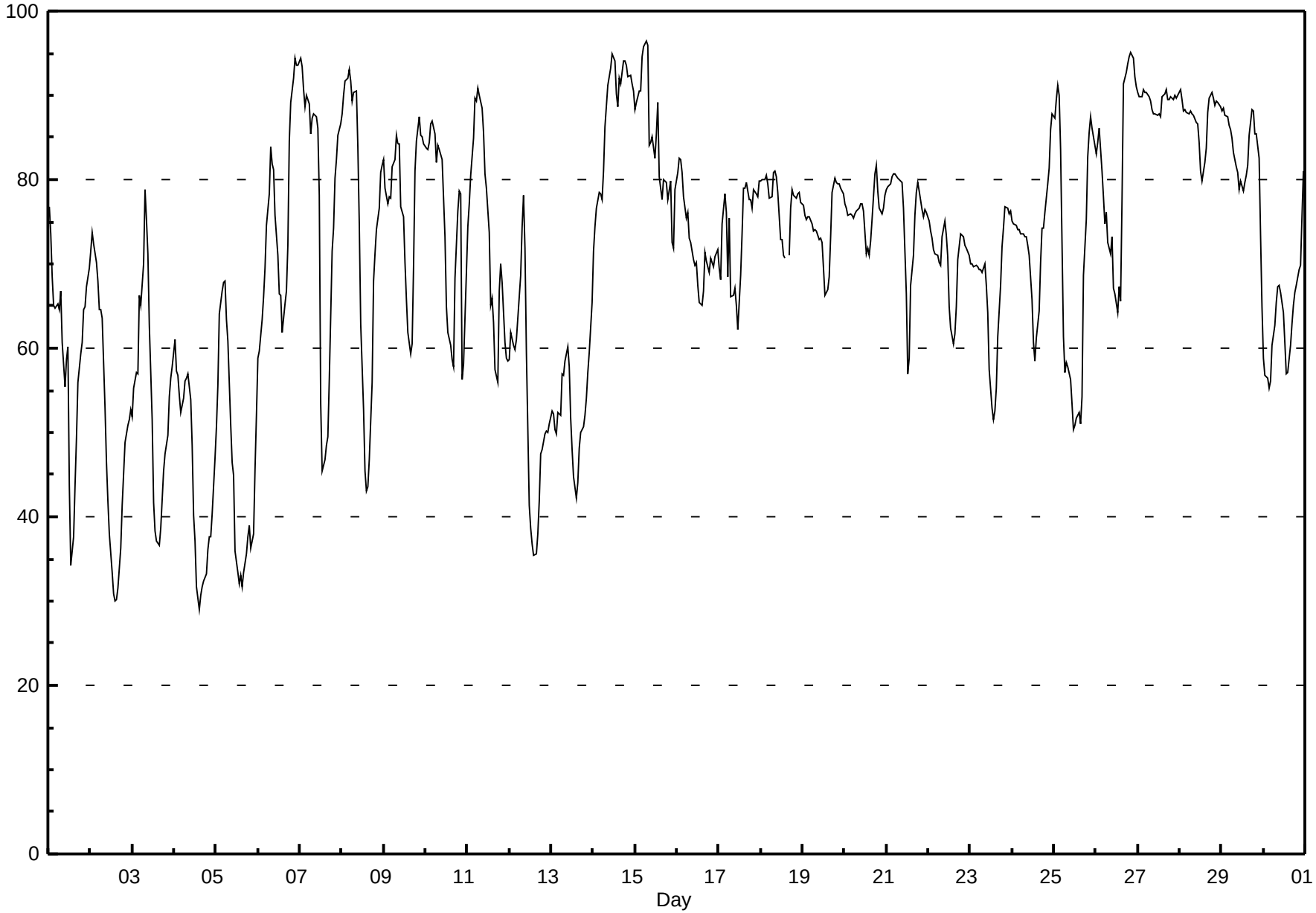
Hourly Averages

Relative Humidity (RH) - %

Valleyview - November 2010



FOCUS AIR QUALITY MONITORING

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Peace Air Shed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - November 2010

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	2	0	7	11	10	12	10	9	11	6	2	2	5	7	21	13	8	4	3	3	7	6	3	6	6.0	21.0
Dir	231	5	177	178	190	186	189	185	190	191	245	209	203	227	267	249	240	227	202	180	187	195	206	201	209	267
2 Spd	6	6	5	5	6	7	6	5	18	19	21	20	26	28	26	21	24	19	14	14	10	12	11	7	12.2	28.1
Dir	199	192	191	179	157	185	198	236	264	271	275	279	281	275	277	277	290	285	269	263	266	265	282	285	267	275
3 Spd	7	2	3	2	3	4	2	2	3	5	6	4	4	6	8	8	7	3	5	7	4	1	1	2	3.0	8.2
Dir	278	236	146	147	242	240	182	178	204	208	162	149	159	166	137	136	134	90	146	175	192	266	202	184	170	136
4 Spd	1	4	6	11	15	14	11	11	10	13	9	12	7	7	8	8	11	12	11	6	7	8	6	3	8.6	15.3
Dir	230	194	186	186	188	186	188	189	186	186	192	190	194	191	189	190	190	187	190	197	186	191	194	261	190	188
5 Spd	3	7	2	7	14	9	6	6	9	9	11	18	15	17	14	17	12	6	3	3	8	7	2	2	7.6	17.9
Dir	315	338	6	331	332	284	244	263	278	278	283	300	300	291	282	284	273	286	232	224	270	300	176	159	289	300
6 Spd	3	3	4	4	4	3	2	2	2	2	3	2	0	2	4	2	4	0	2	1	1	0	1	2	1.9	4.3
Dir	203	222	201	212	216	204	220	192	201	190	211	211	199	207	184	192	184	164	35	186	22	196	199	335	204	216
7 Spd	2	1	2	2	0	0	2	4	4	3	2	2	10	12	3	5	4	3	4	4	4	2	4	4	1.5	11.9
Dir	6	48	70	8	20	20	95	56	62	345	340	124	182	187	196	192	200	266	280	263	186	208	182	195	192	187
8 Spd	4	2	4	3	1	3	5	2	2	3	4	3	2	3	1	3	3	1	1	1	3	1	1	1	2.0	4.8
Dir	205	205	199	201	200	197	204	239	203	210	190	191	177	175	147	88	76	352	193	235	177	201	189	218	191	204
9 Spd	1	2	1	3	2	2	1	2	1	4	1	2	1	2	1	2	2	0	2	0	2	1	2	2	0.6	4.2
Dir	231	193	145	181	230	219	223	180	225	168	306	338	7	28	57	56	95	37	337	53	213	198	175	225	191	168
10 Spd	3	1	1	0	1	2	3	1	2	3	3	4	1	1	2	3	2	1	2	1	3	13	8	4	1.8	12.6
Dir	194	207	211	156	225	205	197	310	207	202	197	191	190	156	154	172	173	151	216	241	217	294	289	216	226	294
11 Spd	3	4	4	3	4	3	3	2	2	2	2	3	4	0	2	2	3	1	1	1	1	2	5	4	1.9	4.9
Dir	233	226	215	210	179	183	177	205	192	200	174	202	181	259	41	18	151	119	11	256	259	198	193	192	196	193
12 Spd	3	4	6	3	6	4	3	0	2	2	5	15	16	18	16	12	8	4	5	6	8	9	8	7	4.9	17.9
Dir	168	198	187	205	193	204	210	234	195	211	247	282	285	290	300	287	275	247	202	202	191	193	193	182	245	290
13 Spd	6	7	9	8	7	8	7	9	7	6	5	4	5	20	23	20	17	19	18	16	17	15	9	4	7.5	23.0
Dir	193	193	192	193	197	175	195	184	183	192	189	185	254	296	300	299	294	291	291	289	291	291	282	220	264	300
14 Spd	4	4	5	5	7	6	3	3	3	2	1	2	3	7	12	7	6	4	8	9	12	9	13	14	4.6	14.2
Dir	208	216	213	208	205	202	208	194	202	225	259	218	253	298	303	299	336	296	315	301	290	303	294	289	275	289
15 Spd	11	3	2	8	3	4	4	3	11	14	10	18	11	11	12	14	15	11	12	12	12	18	18	19	7.9	19.4
Dir	281	271	265	279	187	182	197	231	313	334	321	351	355	5	27	29	26	32	31	36	22	16	14	16	1	16
16 Spd	18	17	18	17	13	13	9	10	9	8	8	7	7	3	4	6	9	8	8	7	6	4	5	5	8.5	18.3
Dir	9	10	8	12	19	7	16	22	26	31	11	1	356	344	68	68	56	55	57	53	50	30	30	59	23	8
17 Spd	5	3	3	5	4	5	7	7	7	11	11	12	10	8	9	11	10	11	11	10	10	11	10	10	7.9	12.4
Dir	76	104	54	61	70	101	65	91	111	130	123	127	117	95	88	83	77	84	84	80	81	78	74	74	91	127
18 Spd	10	9	9	10	10	9	8	8	9	9	M	M	M	M	M	M	1	1	1	0	1	1	1	1	4.8	10.0
Dir	66	64	54	54	54	63	59	31	23	21	M	M	M	M	M	M	11	194	339	52	344	119	192	176	50	54
19 Spd	1	2	1	1	2	2	1	2	2	3	4	4	4	4	3	1	1	0	2	3	2	3	1	1	1.0	4.0
Dir	185	187	192	185	185	191	187	178	181	177	175	166	179	179	174	141	33	42	320	326	346	339	351	298	187	179
20 Spd	0	1	1	2	1	1	1	3	4	3	3	3	4	2	1	2	1	1	1	1	0	1	2	0	1.0	4.1
Dir	174	176	191	168	179	167	172	170	170	175	167	164	159	194	341	349	152	186	343	137	46	342	357	346	170	170
21 Spd	1	0	1	1	1	2	1	0	1	2	3	2	2	2	3	2	3	3	8	10	11	9	6	10	3.1	11.2
Dir	158	63	66	359	357	351	19	23	337	309	307	269	310	269	327	325	325	315	331	347	1	7	360	357	344	1
22 Spd	11	14	14	14	13	14	13	10	11	9	3	1	3	2	5	5	2	2	2	2	3	4	4	4	4.6	14.2
Dir	11	8	7	9	11	8	11	359	356	4	357	339	296	307	257	302	281	207	195	196	186	178	178	182	358	9

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Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - November 2010

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	3	3	2	3	3	2	2	1	1	2	3	6	9	7	7	6	4	2	2	1	1	1	2	3	3.2	8.5
Dir	191	194	204	200	192	195	192	190	189	202	182	175	174	172	172	170	173	182	195	171	229	208	200	205	184	174
24 Spd	3	3	3	3	3	3	3	4	4	3	4	3	3	2	2	1	1	1	1	1	2	3	5	4	2.7	5.0
Dir	203	201	195	197	200	198	196	195	182	181	189	186	183	188	182	229	209	217	202	195	192	186	179	187	192	179
25 Spd	4	4	3	3	2	16	21	16	14	10	8	13	11	9	2	3	2	1	1	1	1	2	2	1	5.1	21.1
Dir	178	173	183	173	182	276	279	281	277	286	276	280	285	293	307	303	301	148	161	204	215	212	212	211	270	279
26 Spd	1	1	0	0	0	0	1	3	1	2	3	3	3	1	4	10	3	2	2	1	1	1	1	1	0.5	10.2
Dir	51	330	360	13	75	261	354	185	159	191	188	185	193	166	315	342	359	244	165	189	204	207	213	219	255	342
27 Spd	1	1	1	2	0	2	2	3	3	1	2	1	4	4	6	6	7	6	5	3	4	3	2	2	1.3	7.1
Dir	208	202	209	196	203	207	199	201	193	189	169	226	358	353	355	8	9	8	11	28	6	355	1	336	356	9
28 Spd	0	0	1	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0	0	0	1	2	2	1	0.3	1.9
Dir	359	307	181	179	224	81	175	191	125	167	172	154	223	13	352	11	344	204	211	97	193	193	202	209	193	193
29 Spd	3	3	2	2	1	2	2	1	1	1	0	0	1	3	4	3	3	2	1	1	1	2	3	7	0.5	6.7
Dir	172	195	201	192	191	196	192	210	290	360	291	263	317	344	345	359	344	342	316	170	325	159	162	175	221	175
30 Spd	10	7	7	9	9	10	8	9	10	8	8	9	8	7	6	3	3	3	5	8	6	5	4	3	6.9	10.2
Dir	174	174	170	174	175	173	174	178	179	180	178	175	175	176	181	180	184	187	181	178	173	181	175	177	176	173
Spd	0.8	0.6	1.0	1.0	1.3	2.0	1.7	1.5	1.8	1.7	2.2	2.3	2.6	3.2	3.3	2.4	1.5	1.1	1.0	1.0	1.2	1.5	1.0	0.8	Diurnal Average	
Dir	225	203	173	188	189	205	206	207	232	233	232	245	250	269	283	296	298	290	285	267	265	280	260	236		
Spd	17.8	17.3	18.3	16.6	15.3	16.5	21.1	15.6	17.5	19.3	21.0	19.6	25.7	28.1	25.8	20.6	23.8	18.8	17.8	15.9	16.9	18.0	18.4	19.4	Diurnal Maximum	
Dir	9	10	8	12	188	276	279	281	264	271	275	279	281	275	277	277	290	291	291	289	291	16	14	16		

Maximum Speed Value: 28 ppb on Nov 2 14:00
Maximum Daily Speed Average: 12.2 ppb on Nov 2
Maximum Diurnal Speed Average: 3.3 ppb at hour 15

Minimum Speed Value: 0 ppb on Nov 26 06:00
Minimum Daily Speed Average: 0.3 ppb on Nov 28
Minimum Diurnal Speed Average: 0.6 ppb at hour 2

Monthly Average Velocity: 1.31 ppb 248.0 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.8$ $Q_1 = 1.7$ Median = 3.4 $Q_3 = 7.6$ $P_{90} = 11.9$ $P_{99} = 20.9$

All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Percent Operational Time:	99.2

M - Maintenance

Frequency Distribution

Direction	Speed Range (ppb) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	54	19	20	1	0	0	94
NorthEast	22	19	6	0	0	0	47
East	13	12	3	0	0	0	28
SouthEast	19	7	2	0	0	0	28
South	197	76	11	0	0	0	284
SouthWest	98	6	0	0	0	0	104
West	20	18	27	9	1	0	75
NorthWest	29	12	10	3	0	0	54
Total	452	169	79	13	1	0	714

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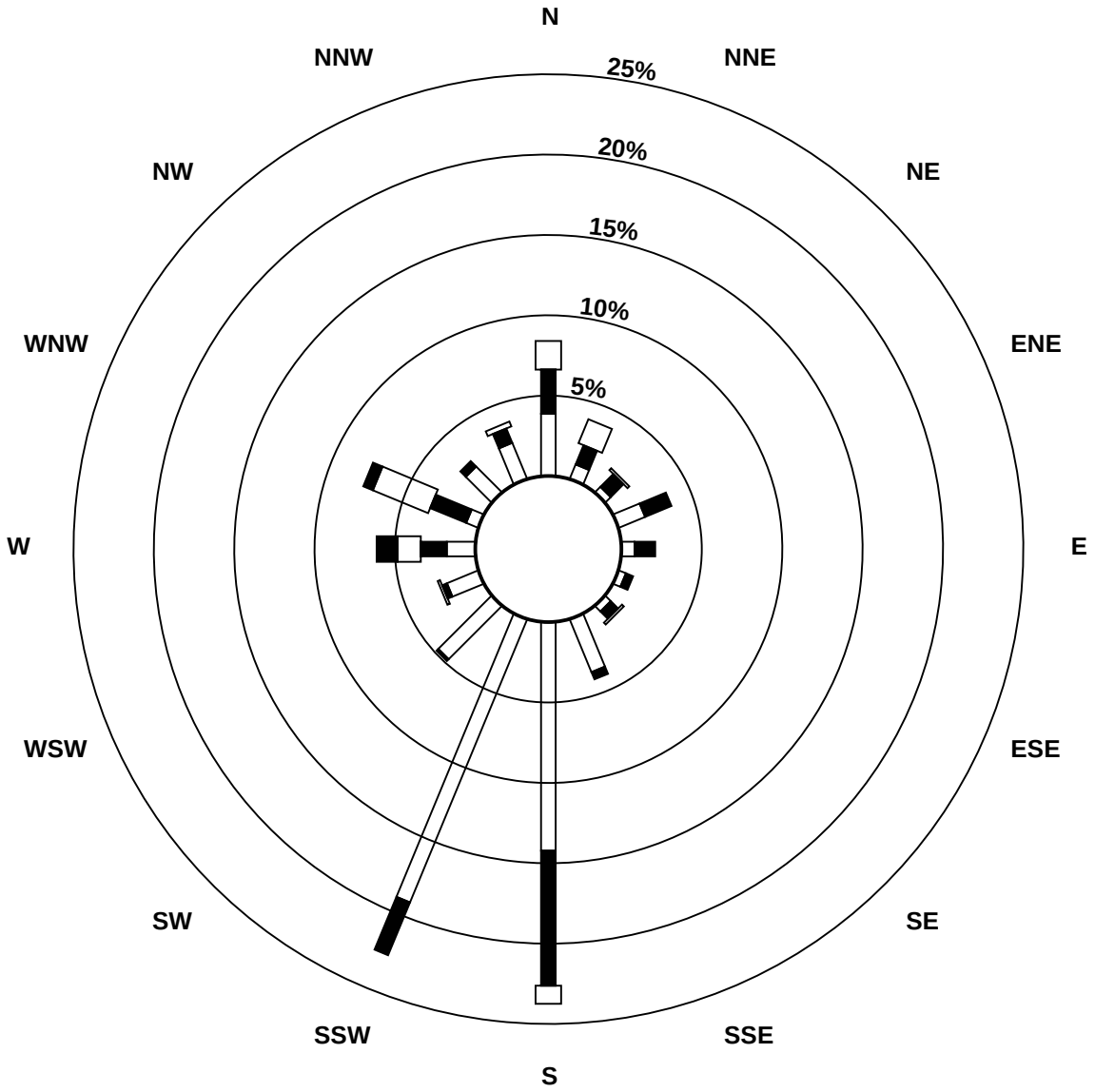
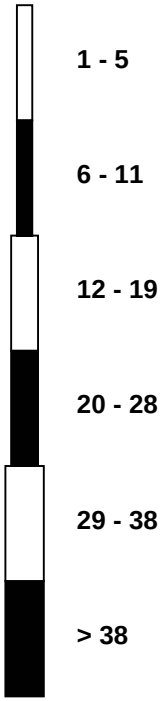
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - November 2010



Wind Speed Classes (km/h)



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Peace Air Shed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - November 2010

Maximum Speed: 28 km/h on Nov 2 14:00

Maximum Daily Speed Average: 14.1 km/h on Nov 2

Minimum Speed: 0 km/h on Nov 28 06:00

Minimum Daily Speed Average: 1.0 km/h on Nov 28

Maximum Diurnal Speed Average: 7.6 km/h at hour 15

Minimum Diurnal Speed Average: 4.2 km/h at hour 2

Monthly Average Speed: 5.48 km/h

Percentiles: $P_1 = 0.6$ $P_{10} = 1.2$ $Q_1 = 2.0$ Median = 3.5 $Q_3 = 7.8$ $P_{90} = 12.0$ $P_{99} = 21.2$

Hours in Service: 720
Hours of Data: 714
Hours of Missing Data: 6

Percent Operational Time: 99.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	7	11	10	12	10	9	11	6	2	2	5	8	21	14	8	4	3	3	7	6	3	6	7.3	21.3
2-Nov	7	6	6	5	6	7	6	6	18	19	21	20	26	28	26	21	24	19	14	14	11	12	11	7	14.1	28.4
3-Nov	7	3	4	3	3	6	3	2	3	5	6	5	4	7	8	8	8	3	5	7	4	2	2	2	4.6	8.4
4-Nov	2	4	6	11	15	14	11	11	10	13	9	12	7	7	8	8	11	12	11	7	7	8	6	7	9.0	15.3
5-Nov	4	7	3	8	15	10	6	7	10	9	12	18	16	17	14	17	12	6	3	3	8	8	3	3	9.1	18.3
6-Nov	3	3	4	4	4	3	2	2	2	2	3	3	1	2	4	2	4	1	2	1	1	1	1	2	2.5	4.4
7-Nov	3	2	2	4	1	1	2	4	4	3	3	2	11	12	3	5	5	3	4	4	4	3	4	5	3.9	12.0
8-Nov	4	2	4	3	2	3	5	2	2	3	4	3	3	3	2	3	3	2	2	2	3	2	2	2	2.7	4.8
9-Nov	1	2	3	4	3	3	2	3	4	4	3	3	1	2	2	2	2	1	2	2	2	2	2	2	2.5	4.3
10-Nov	3	1	1	1	1	3	4	2	2	3	3	4	2	1	2	3	2	1	2	1	4	13	8	4	3.0	12.6
11-Nov	3	4	4	3	4	3	3	2	3	2	2	3	4	2	2	2	3	2	2	2	3	4	5	4	3.0	5.0
12-Nov	3	4	6	3	6	4	3	1	2	2	6	15	16	18	16	12	8	4	5	6	8	9	8	8	7.3	18.1
13-Nov	6	7	9	8	7	8	7	9	8	7	5	4	7	20	23	20	17	19	18	16	17	15	9	5	11.3	23.1
14-Nov	4	4	5	5	7	6	3	3	4	2	1	2	4	7	12	7	6	4	8	9	12	9	13	14	6.3	14.3
15-Nov	12	5	3	8	3	4	4	4	11	14	10	18	11	12	13	14	15	12	12	12	13	18	18	19	11.1	19.5
16-Nov	18	17	18	17	13	13	9	10	9	8	8	7	7	5	4	7	9	8	8	7	6	4	5	5	9.4	18.4
17-Nov	5	3	3	5	4	6	7	7	7	11	11	13	11	8	9	12	10	12	11	10	10	11	10	10	8.6	12.5
18-Nov	10	9	9	10	10	9	9	8	9	9	M	M	M	M	M	M	1	1	1	1	1	1	1	1	5.6	10.1
19-Nov	1	2	1	1	2	2	1	2	2	3	4	4	4	4	3	1	1	1	2	3	2	3	2	1	2.2	4.1
20-Nov	1	1	2	2	1	1	2	3	4	3	4	3	4	2	2	2	1	1	1	1	1	1	2	1	1.9	4.1
21-Nov	1	1	1	2	2	3	1	1	1	2	4	2	3	3	3	2	3	3	8	11	11	9	6	10	3.8	11.4
22-Nov	12	14	14	14	13	14	13	10	11	9	3	2	3	3	6	6	2	2	2	2	3	4	4	4	7.0	14.3
23-Nov	3	3	2	3	3	2	3	1	1	2	3	6	9	7	7	6	4	2	2	1	1	1	2	3	3.3	8.6
24-Nov	3	3	3	3	3	3	3	4	4	4	4	3	3	2	3	2	1	1	1	1	2	3	5	4	2.8	5.0
25-Nov	5	4	3	3	3	17	21	16	14	10	8	13	11	9	4	4	2	2	1	1	1	2	2	1	6.6	21.2
26-Nov	1	1	1	1	2	1	2	3	2	2	3	3	3	1	5	10	4	2	2	1	1	1	1	1	2.4	10.3
27-Nov	1	1	1	2	1	2	2	3	3	2	2	1	4	4	6	6	7	6	5	3	4	3	2	2	3.0	7.1
28-Nov	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.0	2.2
29-Nov	3	3	3	2	1	2	2	1	1	1	1	1	1	3	4	4	3	2	2	1	2	2	3	7	2.2	6.8
30-Nov	10	7	7	9	9	10	8	9	10	9	8	9	8	7	6	3	3	3	5	8	6	5	4	3	7.0	10.3
	4.6	4.2	4.6	5.2	5.2	5.7	5.2	4.8	5.7	5.7	5.4	6.3	6.6	7.2	7.6	7.1	6.0	4.6	4.9	4.8	5.2	5.4	4.9	4.8	Diurnal Average	
	17.9	17.4	18.4	16.7	15.3	16.7	21.2	15.7	17.6	19.5	21.2	19.8	26.0	28.4	26.3	20.7	24.0	18.9	17.9	16.0	17.0	18.1	18.5	19.5	Diurnal Maximum	

M - Maintenance
All monthly, daily, and diurnal averages have been calculated using scalar methods

FOCUS AIR QUALITY MONITORING

PASZA
Peace Air Shed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - November 2010

Maximum Value: 98.1 deg on Nov 9 18:00

Minimum Value: 3.8 deg on Nov 11 03:00

Percentiles: P_1 = 4.8 P_{10} = 7.1 Q_1 = 9.0 Median = 15.7 Q_3 = 39.7 P_{90} = 62.7 P_{99} = 91.3

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	0
Percent Operational Time:	99.2

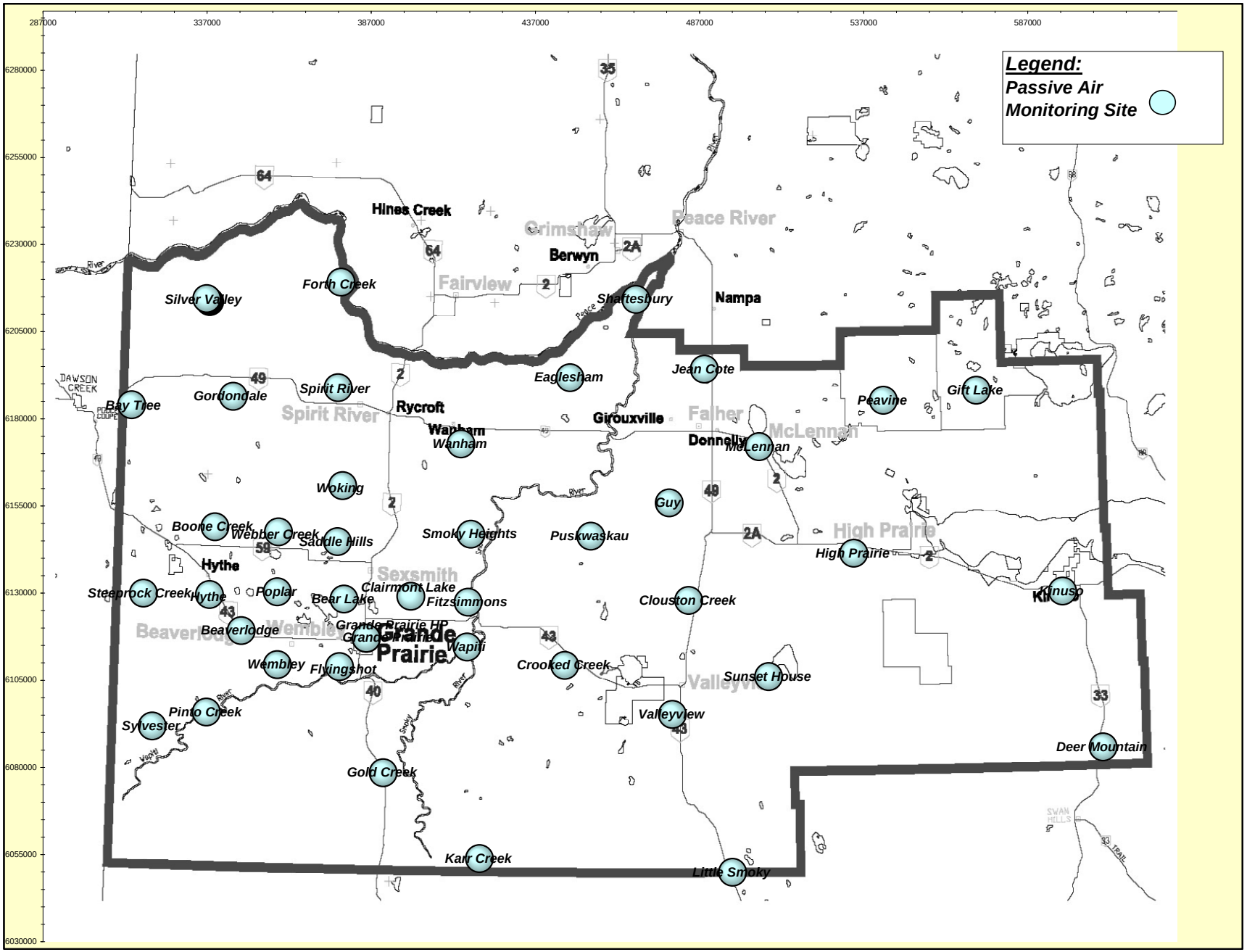
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	68	82	12	9	7	6	7	8	8	26	33	22	19	30	10	12	12	14	42	37	8	8	48	6	81.5
2-Nov	6	8	30	11	20	12	12	20	5	7	8	9	9	8	10	7	8	9	9	6	8	9	8	7	29.6
3-Nov	8	79	46	47	36	49	63	32	19	12	21	15	33	22	12	11	7	20	11	13	22	72	82	24	81.8
4-Nov	71	15	6	7	6	8	6	6	7	7	8	9	10	10	8	8	6	6	7	10	10	5	7	63	71.1
5-Nov	64	22	83	37	12	26	24	28	14	12	13	13	14	11	12	9	9	34	22	10	20	36	54	49	82.9
6-Nov	16	16	18	7	7	16	21	15	31	24	28	45	86	34	19	10	14	88	52	51	59	92	76	48	91.8
7-Nov	39	82	39	74	93	80	51	22	30	30	57	47	23	8	24	11	31	40	23	21	20	20	19	13	93.4
8-Nov	10	22	7	13	54	17	10	27	24	10	12	17	27	22	73	50	16	92	91	80	24	40	39	55	92.4
9-Nov	67	31	66	60	54	27	62	30	65	10	76	80	57	40	52	30	28	98	25	79	46	53	51	40	98.1
10-Nov	22	35	60	79	39	49	73	86	36	9	17	14	43	57	18	11	11	48	20	73	49	6	13	8	85.7
11-Nov	4	12	4	7	13	11	17	23	19	14	30	15	17	81	39	42	13	51	57	54	65	62	11	12	81.2
12-Nov	22	21	11	18	9	10	56	84	15	8	39	11	11	10	9	13	11	16	9	4	8	8	9	10	84.4
13-Nov	9	7	6	8	18	9	9	9	14	12	19	12	45	9	7	9	7	7	7	7	6	4	9	27	45.4
14-Nov	9	4	9	8	6	16	20	16	16	46	45	17	39	12	10	16	13	21	9	8	7	12	6	5	45.9
15-Nov	6	74	50	21	22	12	7	31	11	7	13	8	12	14	12	8	8	11	9	13	8	7	6	7	73.8
16-Nov	6	7	5	8	13	14	16	11	9	10	22	18	18	51	39	16	13	12	11	12	17	19	18	14	51.1
17-Nov	24	26	14	11	26	23	15	21	18	10	13	10	14	16	14	12	12	10	13	12	12	12	9	13	26.1
18-Nov	10	9	8	8	10	9	9	14	7	7	M	M	M	M	M	M	44	58	62	84	51	82	16	33	83.7
19-Nov	6	8	18	27	9	19	58	15	7	9	13	16	14	12	15	48	19	87	19	13	26	6	42	48	86.8
20-Nov	71	27	62	17	51	63	23	12	8	14	9	15	14	43	61	30	44	19	74	62	77	47	18	81	81.0
21-Nov	59	80	42	63	50	52	59	66	84	77	19	50	39	47	20	29	17	11	7	17	9	6	6	5	83.9
22-Nov	12	7	6	7	7	8	8	5	6	6	25	54	46	48	30	13	22	26	8	9	9	8	6	5	54.3
23-Nov	8	8	18	9	10	13	11	46	31	19	12	9	7	9	9	8	9	13	25	39	17	9	24	16	46.2
24-Nov	17	8	5	7	6	12	8	6	9	9	8	9	17	18	18	34	63	24	28	34	20	11	8	16	62.8
25-Nov	8	11	10	16	36	16	6	7	10	14	18	10	12	13	88	72	54	50	58	46	11	15	31	42	87.7
26-Nov	66	49	92	91	91	86	71	27	89	57	10	9	24	94	45	8	91	25	30	28	31	61	59	40	94.4
27-Nov	47	22	25	17	58	13	10	10	13	55	33	63	17	15	12	9	7	8	10	26	7	13	32	45	62.8
28-Nov	67	82	23	73	45	67	43	59	48	55	28	55	71	51	55	23	62	51	66	81	62	50	15	44	82.3
29-Nov	11	8	14	14	18	6	13	76	55	55	44	91	58	11	4	8	9	26	53	67	34	49	50	24	91.1
30-Nov	8	6	7	8	6	8	10	8	7	9	10	6	9	9	9	11	9	8	8	7	9	9	8	12	12.0
	71.1	82.3	91.7	90.9	93.4	85.6	73.2	85.7	88.9	77.5	76.1	91.1	85.7	94.4	87.7	71.7	90.9	98.1	91.4	83.7	76.5	91.8	81.8	81.0	

M - Maintenance

PASZA

Monthly Passive Data Summary

Location of PASZA Passive Monitoring Stations



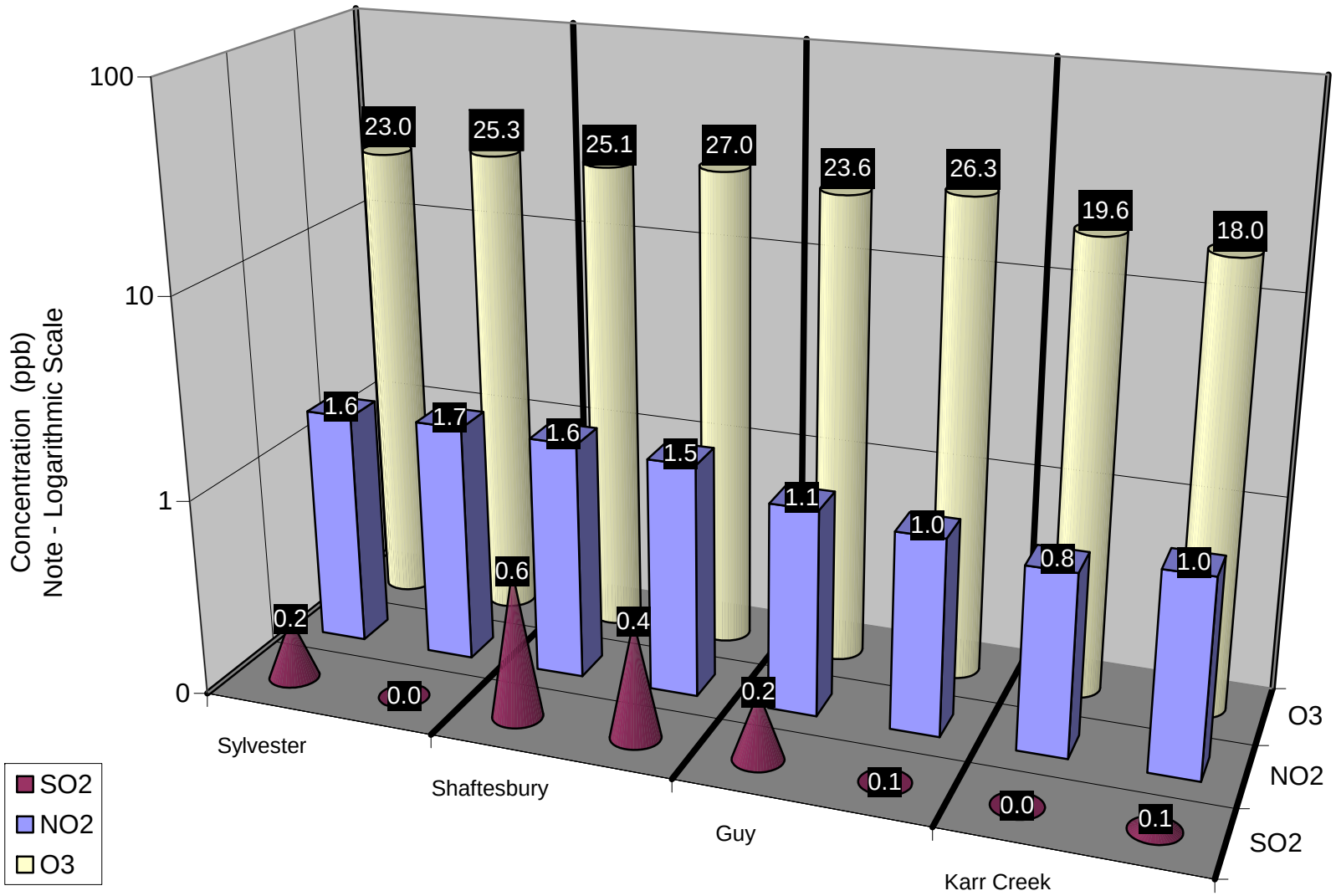
PASZA Passive Results for November 2010

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
14a	Sylvester	**0.2**	**23.0**	**1.6**	
14b	Sylvester	**0.0**	**25.3**	**1.7**	
20a	Shaftesbury	**0.6**	**25.1**	**1.6**	
20b	Shaftesbury	**0.4**	**27.0**	**1.5**	
36a	Guy	**0.2**	**23.6**	**1.1**	
36b	Guy	**0.1**	**26.3**	**1.0**	
38a	Karr Creek	**0.0**	**19.6**	**0.8**	
38b	Karr Creek	**0.1**	**18.0**	**1.0**	
1	Silver Valley	**0.4**	**26.0**	**1.7**	08-27-081-11 W6M
2	Bay Tree	**0.2**	**30.3**	**0.9**	13-16-078-13 W6M
3	Fourth Creek	**0.5**	**29.0**	**1.5**	04-13-082-07 W6M
4	Gordondale	**0.4**	**32.0**	**1.4**	04-34-078-10 W6M
5	Boone Creek	**0.1**	**22.8**	**1.6**	16-36-074-11 W6M
7	Steeprock Creek	**0.3**	**33.3**	**0.9**	09-35-072-13 W6M
9	Spirit River	**0.3**	**27.4**	**1.4**	08-12-079-07 W6M
10	Woking	**0.2**	**28.3**	**0.9**	01-13-076-07 W6M
11	Webber Creek	**0.3**	**22.2**	**2.0**	09-36-074-09 W6M
12	Hythe	**0.1**	**22.3**	**1.9**	14-36-072-11 W6M
14	Sylvester	**0.1**	**24.2**	**1.6**	08-06-069-12 W6M
16	Beaverlodge	**0.3**	**28.1**	**2.7**	15-36-071-10 W6M
17	Poplar	**0.3**	**23.8**	**2.1**	13-06-073-08 W6M
18	Saddle Hills	**0.3**	**27.0**	**1.2**	04-25-074-07 W6M
19	Wanham	**0.3**	**29.5**	**1.5**	16-22-077-03 W6M
20	Shaftesbury	**0.5**	**26.0**	**1.6**	04-03-082-23 W5M
21	Eaglesham	**0.2**	**N/A**	**1.6**	16-21-079-25 W5M
23	Bear Lake	**0.1**	**21.0**	**3.4**	15-31-072-06 W6M

PASZA Passive Results for November 2010 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.2**	**20.5**	**2.3**	12-31-070-08 W6M
25	Pinto Creek	**0.2**	**26.1**	**1.5**	04-24-069-11 W6M
26	Flyingshot	**0.1**	**23.3**	**3.0**	15-36-070-07 W6M
27	Grande Prairie I	**0.2**	**18.6**	**9.8**	08-15-071-06 W6M
28	Clairmont Lake	**0.4**	**25.3**	**2.7**	09-06-073-04 W6M
29	Smoky Heights	**0.5**	**25.4**	**2.2**	04-06-075-02 W6M
30	Fitzsimmons	**0.2**	**16.7**	**2.1**	15-36-072-03 W6M
32	Gold Creek	**0.4**	**16.4**	**3.3**	06-33-067-05 W6M
33	Wapiti	**0.1**	**20.7**	**1.8**	02-25-071-03 W6M
34	Puskwaskau	**0.1**	**23.4**	**1.1**	15-35-074-25 W5M
35	Jean Cote	**0.3**	**23.7**	**1.7**	12-35-079-21 W5M
36	Guy	**0.1**	**24.9**	**1.1**	03-04-076-22 W5M
37	Crooked Creek	**0.3**	**23.3**	**3.9**	16-01-071-26 W5M
38	Karr Creek	**0.0**	**18.8**	**0.9**	10-16-065-02 W6M
39	Clouston Creek	**0.2**	**23.9**	**2.2**	12-01-073-22 W5M
40	McLennan	**0.2**	**25.0**	**1.4**	03-29-077-19 W5M
41	Valleyview	**0.3**	**52.7**	**2.2**	09-30-069-22 W5M
42	Sunset House	**0.5**	**32.4**	**1.2**	05-32-070-19 W5M
43	High Prairie	**0.1**	**23.1**	**1.7**	16-13-074-17 W5M
44	Peavine	**0.2**	**22.3**	**0.9**	03-05-079-15 W5M
45	Gift Lake	**0.2**	**22.2**	**1.2**	10-07-079-12 W5M
46	Little Smoky	**0.1**	**20.6**	**4.2**	12-01-065-21 W5M
47	Kinuso	**0.1**	**22.8**	**1.1**	12-10-073-10 W5M
48	Deer Mountain	**0.1**	**26.7**	**1.0**	15-22-068-09 W5M
49	Grande Prairie HP	**0.2**	**17.0**	**10.3**	17-26-071-06 W6M

*BDL = Below Detection Level



Duplicate Summary Chart

Passive Summary for November 2010

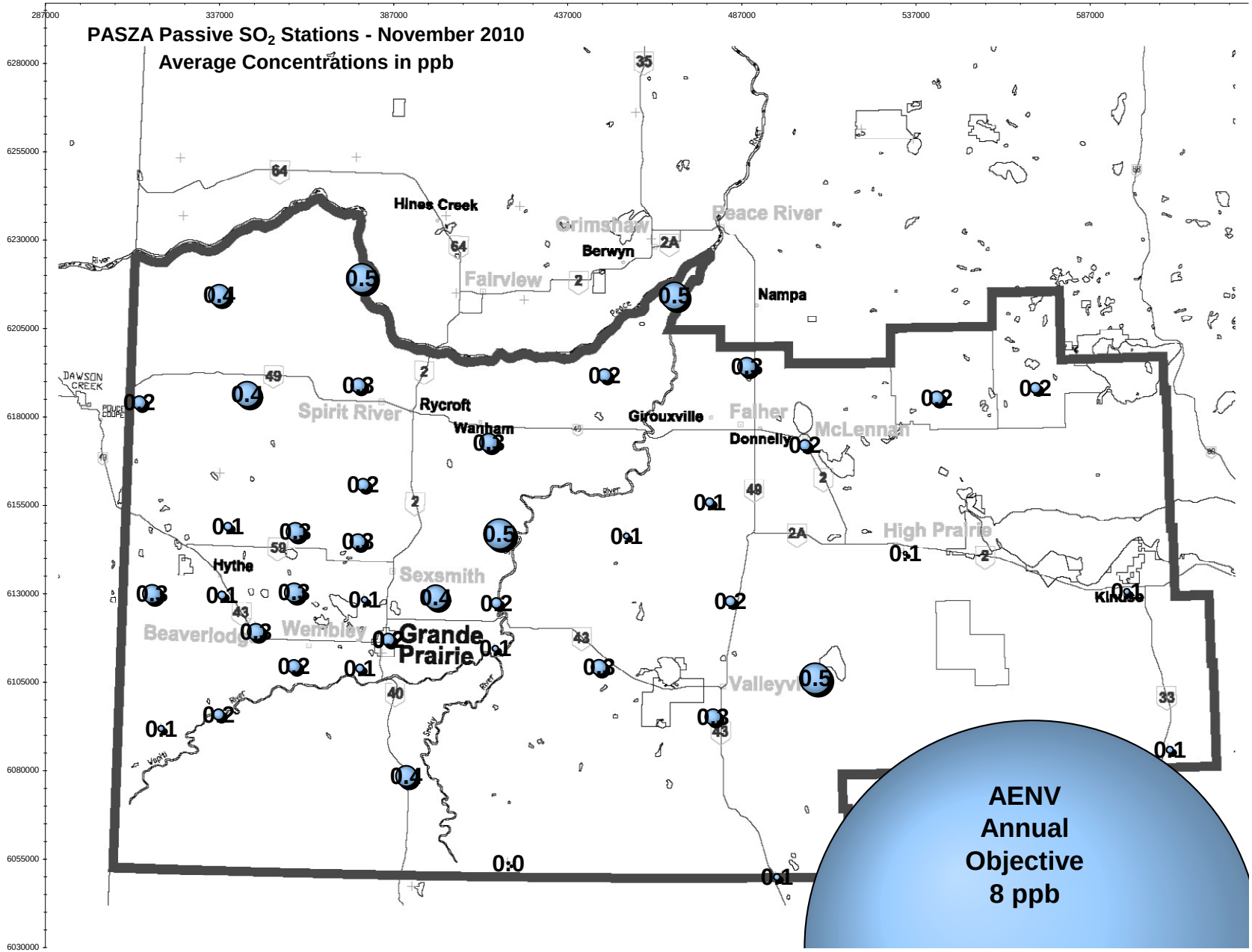
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for November 2010 (PASZA Zone)		
Mean	**0.2**	**25.0**	**2.2**
Standard Deviation	**0.1**	**6.0**	**1.9**
Minimum	**0.0**	**16.4**	**0.9**
Minimum At	**Karr Creek (#38)**	**Gold Creek (#32)**	**Steeprock Creek (#7)**
Maximum	**0.5**	**52.7**	**10.3**
Maximum At	**Sunset House (#42)**	**Valleyview (#41)**	**Grande Prairie HP (#49)**

Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)

	SO_2	O_3	NO_2
PASZA Beaverlodge station	**0.3**	**24.6**	**5.5**
PASZA Beaverlodge passive	**0.3**	**28.1**	**2.7**

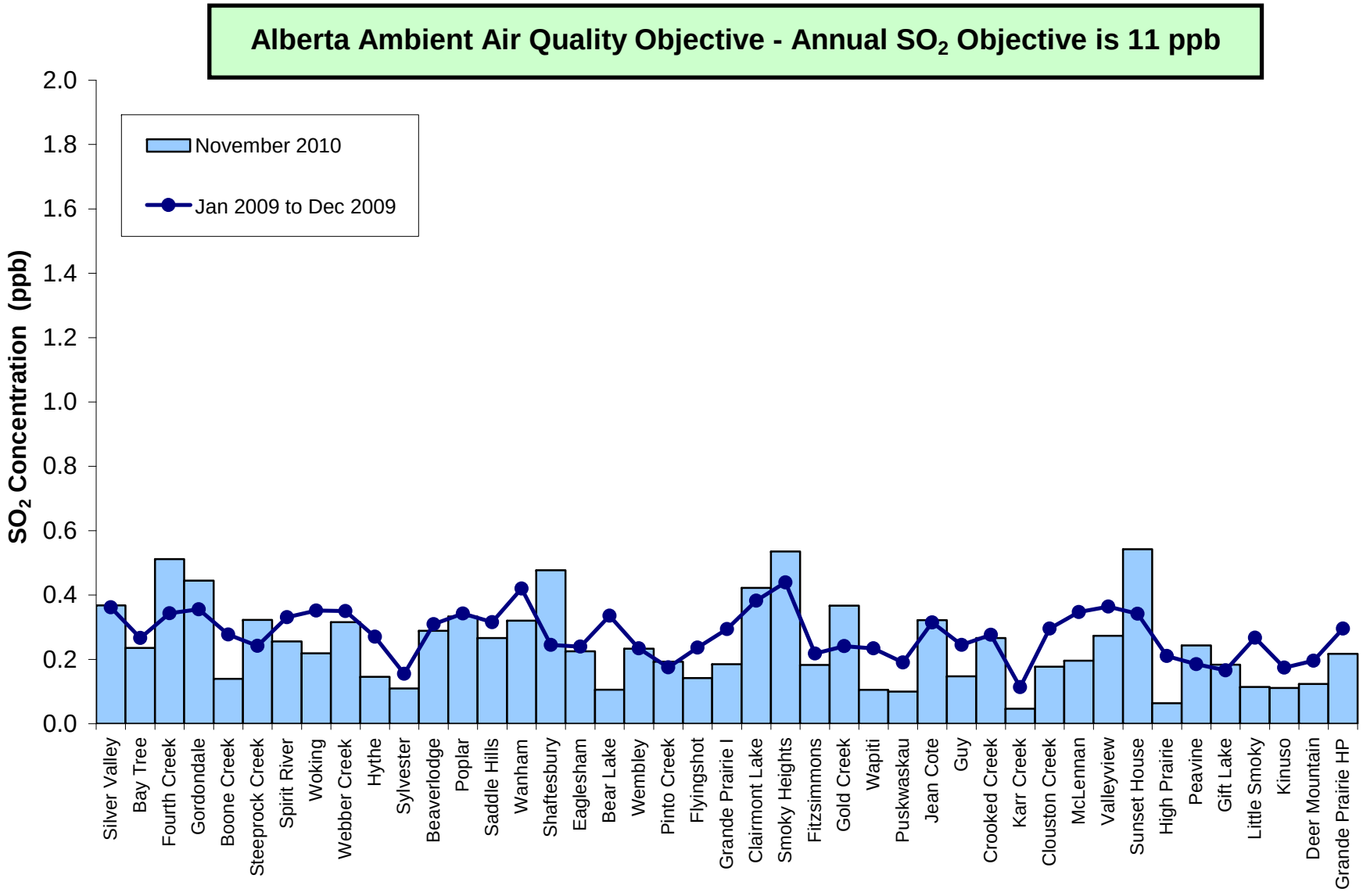
Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)

	SO_2	O_3	NO_2
PASZA Henry Pirker station	**0.4**	**15.2**	**15.6**
PASZA Grande Prairie passive	**0.2**	**17.0**	**10.3**

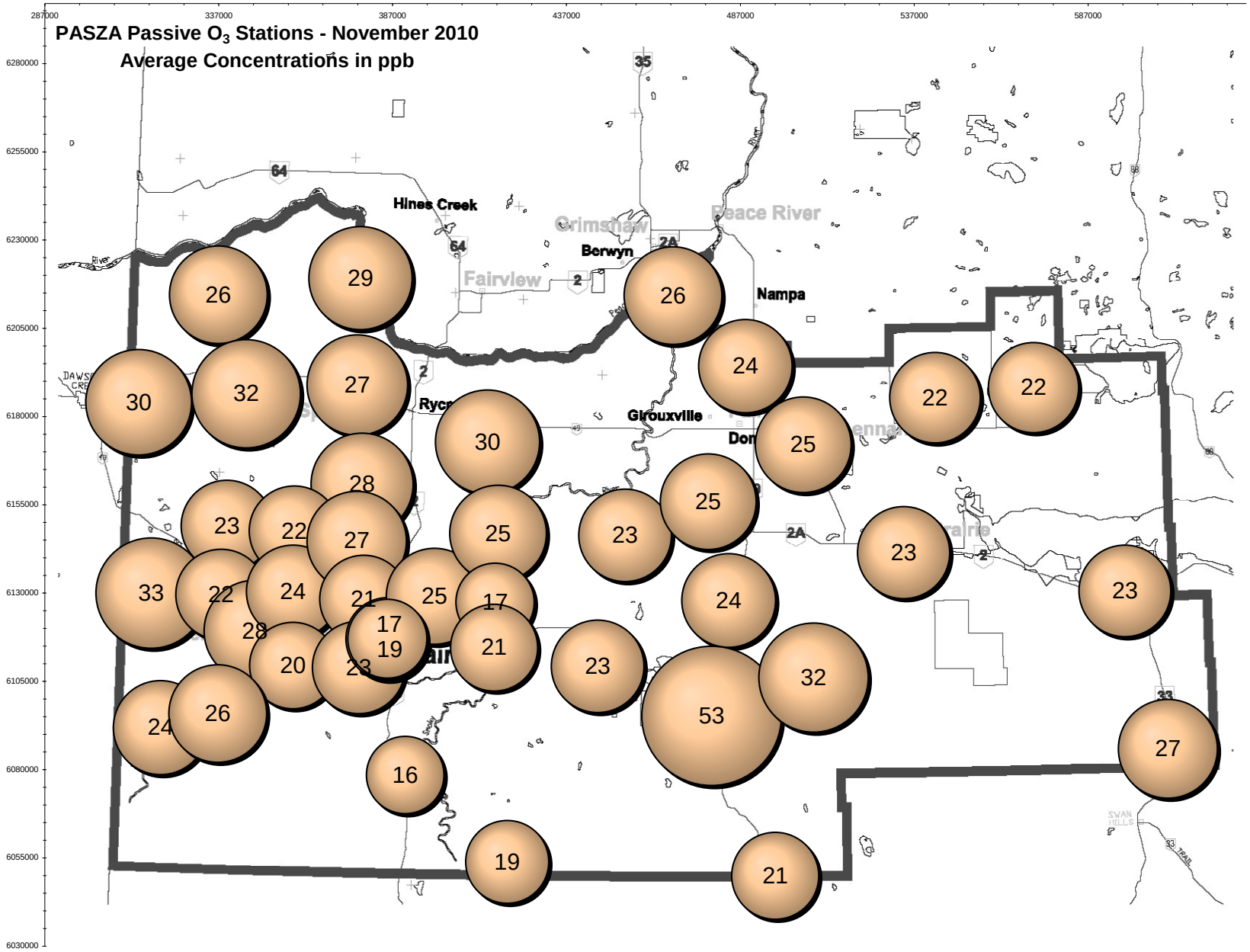


AENV Annual Objective 8 ppb

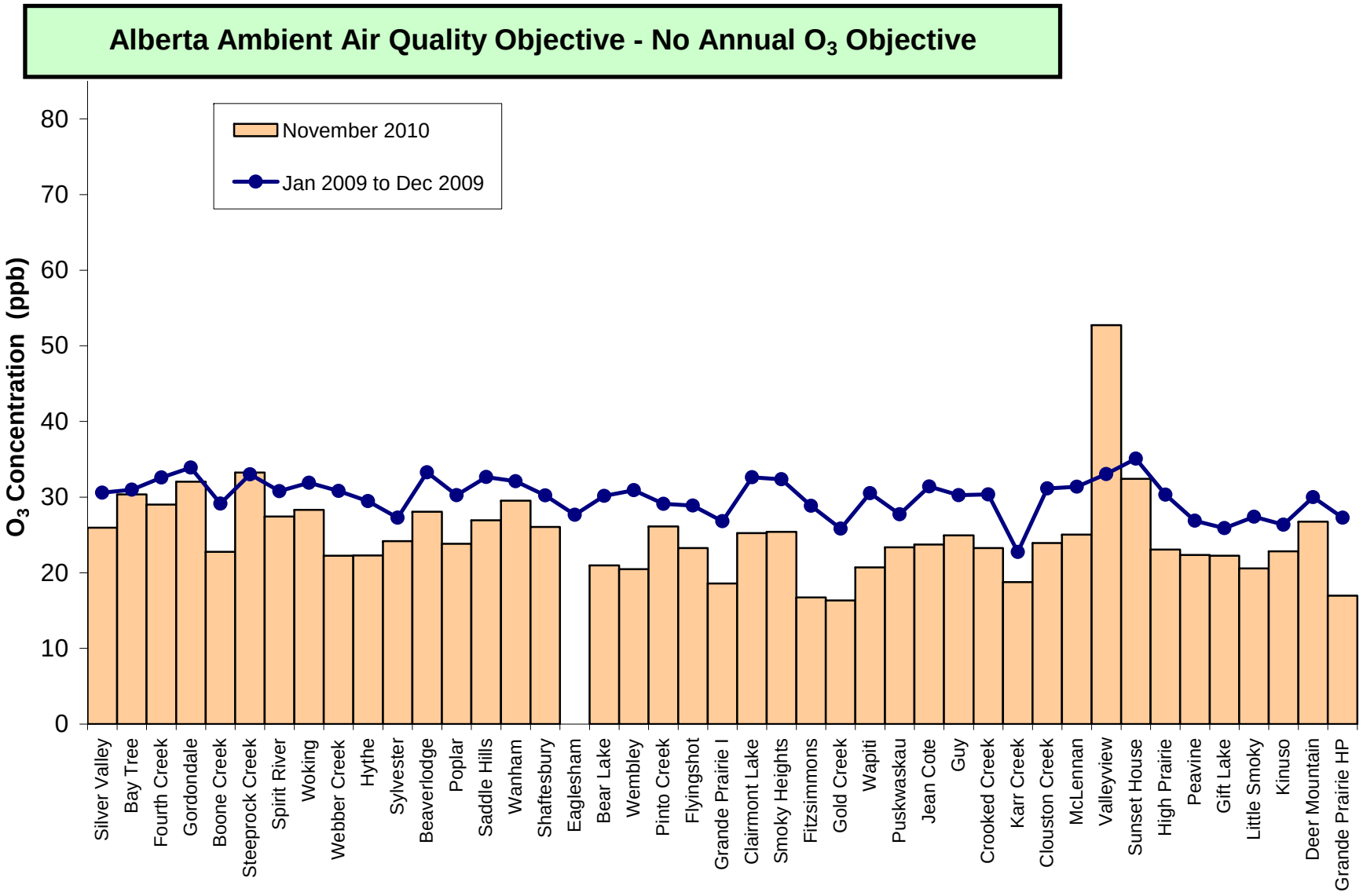
SO_2 Bubble Chart



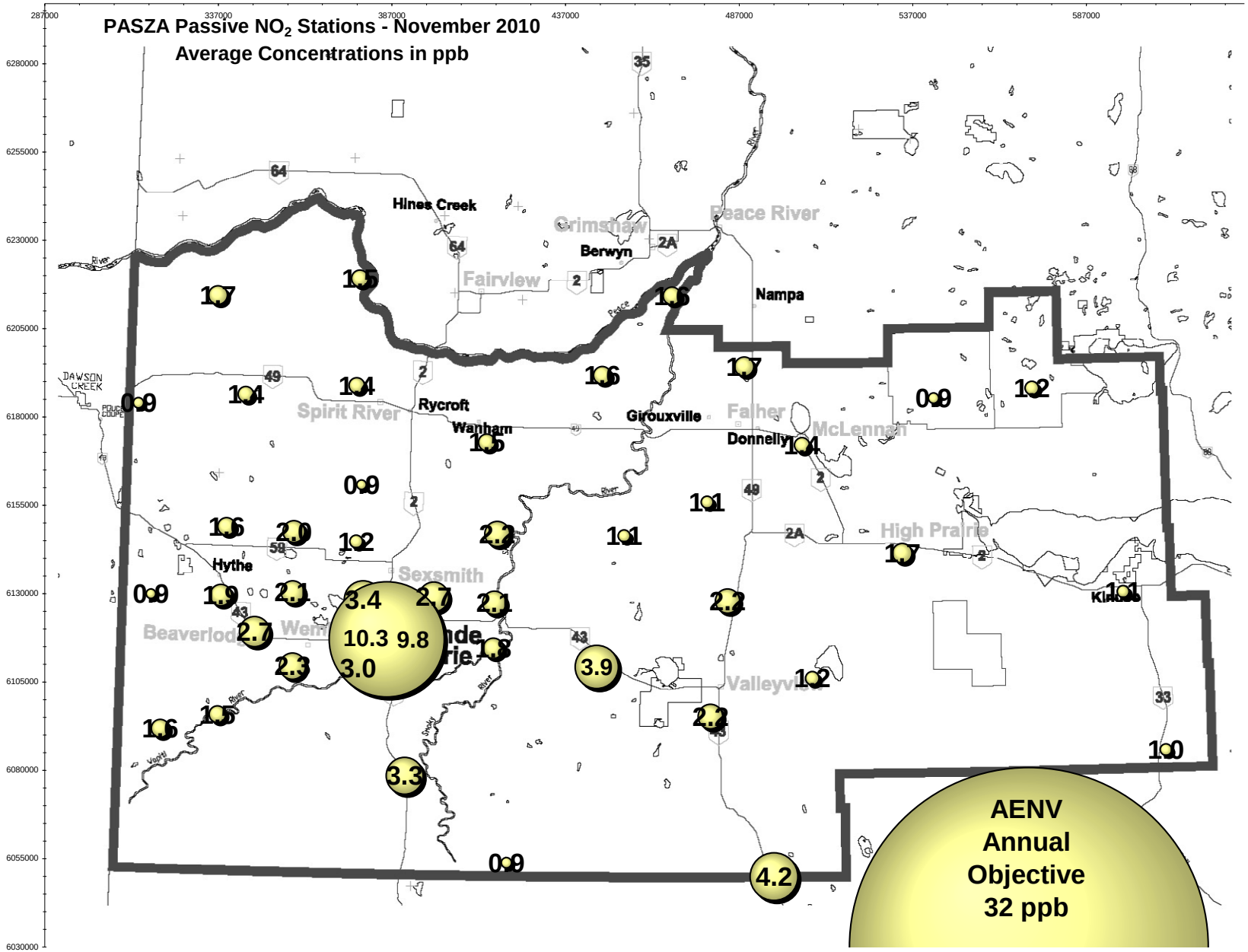
SO_2 Summary Chart



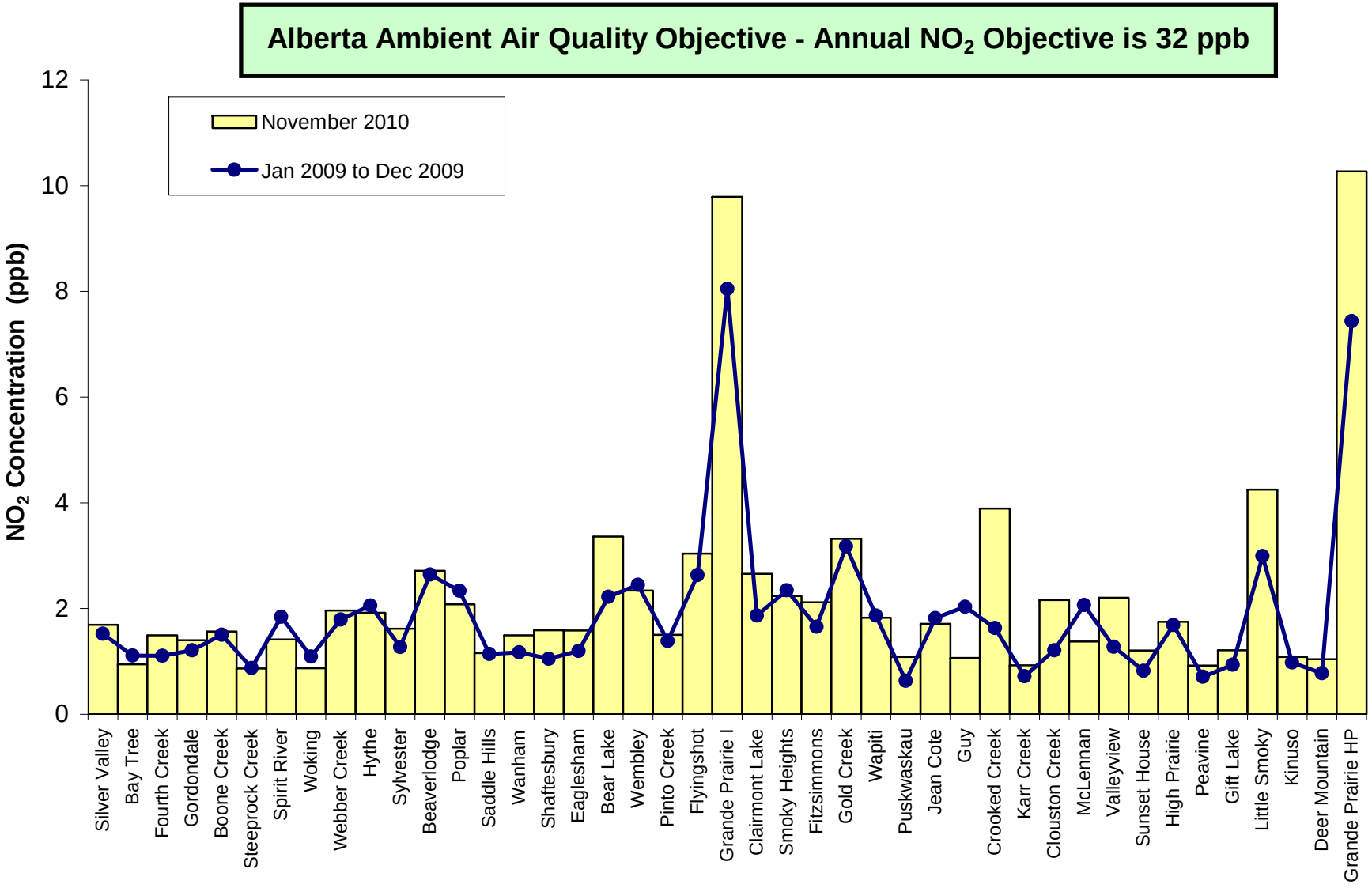
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

PASZA

ALBERTA ENVIRONMENT
INCIDENCE REPORTS

November 2010

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	241701	**Reported To (AENV Contact):**	Nancy
Date & Time Incident Reported to AENV:	11-1-2010 23:20 MST	**Reported By:**	Courtney Thompson - Focus
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	16:00 MST 11-1-2010	**End Date & Time of Incident:**	18:00 MST 11-1-00

Details of Exceedence:

The $PM_{2.5}$ analyzer (TEOM) within the Evergreen Park station, currently located South of Grande Prairie at LSD 5-6-071-05 W6, exceeded the AENV hourly average $PM_{2.5}$ hourly guideline (80 µg/m^3) as detailed below:

16:00-17:00 MST $PM_{2.5}$= 92.7µg/m^3 WD=259.1 Deg WS = 15.7 km/hr ET = 10.8 deg C
17:00-18:00 MST $PM_{2.5}$= 89.9µg/m^3 WD=280.5 Deg WS = 11.4 km/hr ET = 8.8 deg C

Immediate Actions Taken:

Hourly exceedance phoned in to Ministry.

Follow-up Details:

Process & yard/road dust impacting monitoring trailer due elevated wind speed & it's direction.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Courtney Thompson	Date Report Submitted:	2010-11-1
7-Day Letter Due Date:	November 7th 2010		

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	241728	**Reported To (AENV Contact):**	Stephen – Krysta – Jasmina – Nancy
Date & Time Incident Reported to AENV:	11-2-2010 11:42 MST	**Reported By:**	Courtney Thompson - Focus
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	09:00 MST 11-2-2010	**End Date & Time of Incident:**	17:00 MST 11-2-00

Details of Exceedence:

The $PM_{2.5}$ analyzer (TEOM) within the Evergreen Park station, currently located South of Grande Prairie at LSD 5-6-071-05 W6, exceeded the AENV hourly average $PM_{2.5}$ hourly guideline (80 µg/m^3) as detailed below:

08:00-09:00 MST $PM_{2.5}$= 112.2 µg/m^3 WD=263.3 Deg WS = 18.2 km/hr ET = 7.4 deg C
09:00-10:00 MST $PM_{2.5}$= 171.1 µg/m^3 WD=264.2 Deg WS = 18.4 km/hr ET = 7.9 deg C
10:00-11:00 MST $PM_{2.5}$= 420.8 µg/m^3 WD=260.3 Deg WS = 30.3 km/hr ET = 8.8 deg C
11:00-12:00 MST $PM_{2.5}$= 362.1 µg/m^3 WD=258.9 Deg WS = 29.4 km/hr ET = 9.6 deg C
12:00-13:00 MST $PM_{2.5}$= 397.5 µg/m^3 WD=263.8 Deg WS = 28.6 km/hr ET = 10.4deg C
13:00-14:00 MST $PM_{2.5}$= 413.8 µg/m^3 WD=264.8 Deg WS = 27.4 km/hr ET = 10.9deg C
14:00-15:00 MST $PM_{2.5}$= 362.1 µg/m^3 WD=262.4 Deg WS = 28.0 km/hr ET = 11.2 deg C
15:00-16:00 MST $PM_{2.5}$= 359.1 µg/m^3 WD=267.6 Deg WS = 25.0 km/hr ET = 11.0 deg C
16:00-17:00 MST $PM_{2.5}$= 323.8 µg/m^3 WD=272.7 Deg WS = 22.4 km/hr ET = 10.0 deg C

24 –hour exceedance (30 µg/m^3)
00:00 MST $PM_{2.5}$= 127.6 µg/m^3 WD=250.4 Deg WS = 14.3 km/hr ET = 7.1 deg C

Immediate Actions Taken:

Hourly exceedance phoned in to Ministry.

Follow-up Details:

Process & yard/road dust impacting monitoring trailer due elevated wind speed & it's direction.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Courtney	Date Report Submitted:	2010-11-2

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	241831	**Reported To (AENV Contact):**	Karla
Date & Time Incident Reported to AENV:	2010-11-04 19:15	**Reported By:**	Grover Christiansen
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	2010-11-04 16:00	**End Date & Time of Incident:**	2010-11-04 17:00

Details of Exceedence:

Hourly Exceedance 17:00 PM 2.5 = 81.5 ug/m3. WS = 1.5 km/hr. WD = 309 deg. ET = 6.4 deg C.

Immediate Actions Taken:

Hourly exceedence phoned in to Ministry.

Follow-up Details:

WD & WS indicate yard/process dust from Wapiti impacting monitoring site.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Grover Christiansen	Date Report Submitted:	2010-12-20
7-Day Letter Due Date:	November 10 2010		

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	241839	**Reported To (AENV Contact):**	Christie – Krysta - Carla
Date & Time Incident Reported to AENV:	11-5-2010 07:15 MST	**Reported By:**	Courtney Thompson - Focus
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	07:00 MST 11-5-2010	**End Date & Time of Incident:**	17:00 MST 11-5-00

Details of Exceedence:

The $PM_{2.5}$ analyzer (TEOM) within the Evergreen Park station, currently located South of Grande Prairie at LSD 5-6-071-05 W6, exceeded the AENV hourly average $PM_{2.5}$ hourly guideline (80 µg/m^3) as detailed below:

07:00-08:00 MST $PM_{2.5}$=	122.7 µg/m^3	WD=266.1 Deg	WS = 18.5 km/hr	ET = 5.7 deg C
08:00-09:00 MST $PM_{2.5}$=	83.1 µg/m^3	WD=259.4 Deg	WS = 14.4 km/hr	ET = 5.5 deg C
10:00-11:00 MST $PM_{2.5}$=	156.5 µg/m^3	WD=274.0 Deg	WS = 14.3 km/hr	ET = 5.5 deg C
11:00-12:00 MST $PM_{2.5}$=	242.4 µg/m^3	WD=279.7 Deg	WS = 20.2 km/hr	ET = 5.5 deg C
12:00-13:00 MST $PM_{2.5}$=	185.0 µg/m^3	WD=279.9 Deg	WS = 19.5 km/hr	ET = 5.4 deg C
13:00-14:00 MST $PM_{2.5}$=	249.6 µg/m^3	WD=262.2 Deg	WS = 23.3 km/hr	ET = 5.6 deg C
14:00-15:00 MST $PM_{2.5}$=	176.4 µg/m^3	WD=263.8 Deg	WS = 17.6 km/hr	ET = 5.8 deg C
15:00-16:00 MST $PM_{2.5}$=	249.0 µg/m^3	WD=265.2 Deg	WS = 19.9 km/hr	ET = 5.7 deg C
16:00-17:00 MST $PM_{2.5}$=	116.6 µg/m^3	WD=259.1 Deg	WS = 14.2 km/hr	ET = 5.7 deg C

24 –hour exceedence (30 µg/m^3)
00:00 MST $PM_{2.5}$= 81.5 µg/m^3 WD=266.0 Deg WS = 13.8 km/hr ET = 4.5 deg C

Immediate Actions Taken:

Hourly exceedence phoned in to Ministry.

Follow-up Details:

Process & yard/road dust impacting monitoring trailer due elevated wind speed & it's direction.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Courtney Thompson	Date Report Submitted:	2010-11-5
7-Day Letter Due Date:	November 12th 2010		

	Thompson		
7-Day Letter Due Date:	November 9th 2010		

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	242037	**Reported To (AENV Contact):**	Christa
Date & Time Incident Reported to AENV:	2010-11-12	**Reported By:**	Grover Christiansen
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	13:00 to 14:00 2010-11-12	**End Date & Time of Incident:**	13:00 to 14:00 2010-11-12

Details of Exceedence:

Hourly PM 2.5 = 106.5 ug/m3 WS= 24.6 km/hr WD = 278.9 deg ET = 6.5 deg C.

Immediate Actions Taken:

Hourly exceedance phoned in to Ministry.

Follow-up Details:

Wind speed has picked up once again blowing area dust mixed with Wapiti process debri.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Grover Christiansen	Date Report Submitted:	2010-11-13
7-Day Letter Due Date:			

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	242055	**Reported To (AENV Contact):**	Carston/Lacey
Date & Time Incident Reported to AENV:	2010-11-13	**Reported By:**	Grover Christiansen
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	12:00 to 13:00 2010-11-13	**End Date & Time of Incident:**	2010-11-13 14:00

Details of Exceedence:

13:00 Hourly PM 2.5 = 88.1 ug/m3 WS= 27.2 km/hr WD = 273 deg ET = 9.6 deg C.
14:00 Hourly PM 2.5 = 120 ug/m3 WS = 28.3 km/hr WD = 274 deg ET = 9.7 deg C.

Immediate Actions Taken:

Hourly exceedance phoned in to Ministry.

Follow-up Details:

Wind speed has picked up once again blowing area dust mixed with Wapiti process debri.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Grover Christiansen	Date Report Submitted:	2010-11-14
7-Day Letter Due Date:			

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	242345	**Reported To (AENV Contact):**	Christi
Date & Time Incident Reported to AENV:	2010-11-24 15:00 mst	**Reported By:**	Grover Christiansen
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Evergreen Park		
Start Date & Time of Incident:	2010-11-24 18:00	**End Date & Time of Incident:**	2010-11-24 19:00 mst

Details of Exceedence:

18:00 PM 2.5 = 151.3 ug/m3. WS = 2.3 km/hr. WD = 194.3 Deg. Temp = -10.8 Deg C.
19:00 PM 2.5 = 118.6 ug/m3. WS = 2.0 km/hr. WD = 186.7 Deg. Temp = -10.4 Deg C.

Immediate Actions Taken:

Hourly exceedance of PM 2.5 was phoned in to Ministry following meeting.

Follow-up Details:

Agrigate/road & process dust with increased WS & WD.

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Grover Christiansen	Date Report Submitted:	2010-11-25
7-Day Letter Due Date:			

Air Monitoring Directive Exceedence Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	242938	**Reported To (AENV Contact):**	Jasmina
Date & Time Incident Reported to AENV:	December 20, 2010	**Reported By:**	Sharon Whiteley
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	Not applicable
Location(s) of Incident:	Evergreen Park / South Grande Prairie Area		
Start Date & Time of Incident:	Nov 24 @ 23:00 MST	**End Date & Time of Incident:**	Nov 25 @ 00:00 MST

Reason or Nature of Incident:

The $PM_{2.5}$ analyzer (TEOM) within the Evergreen Park station, currently located South of Grande Prairie at LSD 5-6-071-05 W6, exceeded the AENV 24 hour average $PM_{2.5}$ hourly guideline (30 µg/m^3) as detailed below:

Nov 25, 2010 $PM_{2.5}$= 32.3 µg/m^3 WS= 1.8 km/h WD=222 deg (SW)
All averages are displayed as 24-hour averages.

Immediate Actions Taken:

Original raw data came in as 25 µg/m3 – after QA process the 24-hour value the resulting value was 32.3 µg/m3.

Investigation Details:

Operations of the PM2.5 analyzer appear normal during the incident.

Actions Taken to Prevent Reoccurrence (if any):

Not applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Sharon Whiteley	Date Report Submitted:	December 20, 2010
7-Day Letter Due Date:	December 26 2010		

Air Monitoring Directive Non-Compliance Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	242929	**Reported To (AENV Contact):**	Jasmina
Date & Time Incident Reported to AENV:	Dec 20/2010 11:20	**Reported By:**	Sharon Whiteley
Reported on Behalf of:	PASZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Portable - Bonanza Monitoring Site (LSD SE-1-8-80-12 W6)		
Start Date & Time of Incident:	November 17th 2010	**End Date & Time of Incident:**	November 30th 2010

Details of Non-Compliance:

On November 17th 2010 the Ozone (O3) analyzer at the Portable Bonanza site failed due to pump failure. Over the course of the month several attempts were made to rebuild and replace the pump which when repaired, other failed components became evident. On November 26th the analyzer was removed from service and on November 30th a spare O3 analyzer was installed in the station. One hundred & twenty-one (121) hours were flagged invalid resulting in less than 90% operational for the month of November.

Immediate Actions Taken:

November 20th – pump was rebuilt in analyzer
November 21st – (flows still unstable) flows were replumbed with an external pump because rebuilt pump not working properly
November 24th – analyzer not switching properly – flows dropped – spare pump installed – continued problems noted with mode valve (intermittent in nature).
November 26th – analyzer flows continue to be unacceptable – analyzer removed from service
November 30th – spare analyzer was installed & calibrated

Follow-up Details:

Actions Taken to Prevent Reoccurrence (if any):

Not Applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Sharon Whiteley	Date Report Submitted:	2010-12-20
7-Day Letter Due Date:	December 26th, 2010		

November 2010 Calibration Reports

PASZA - Henry Pirker Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3, CO, THC, TRS

PASZA – Evergreen Park Station with the following calibrations:
SO_2, TRS

PASZA – Smoky Heights Station with the following calibrations:
SO_2, TRS

PASZA – Beaverlodge Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3

PASZA – Kinuso (Portable) Station with the following calibrations:
SO_2, TRS, NO, NO_2, NO_x & O_3,

PASZA – Valleyview Station with the following calibrations:
SO_2 & H_2S

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	8:45	End Time (MST)	11:52
Barometric Pressure	0.935 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	51.5 ppb	Cal Gas Cert Date	4/6/2012
		Cal Gas Cylinder #	SGAL3245
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.002582	Calculated slope	1.002798
Calculated intercept	0.204944	Calculated intercept	0.289448
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.2		8.6	
Coefficient	.856		.809	
Pressure	643.0	mm Hg	652.1	mm Hg
Flow	0.489	lpm	0.485	lpm
Lamp Voltage	44323	Hz	44188	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4991	0.00	0.0	-0.1	N/A
4991	39.83	407.7	406.5	1.0030
4991	19.89	204.4	203.1	1.0065
4991	9.93	102.3	101.7	1.0051
4991	0.00	0.0	-0.1	As Found Zero
4991	39.83	407.7	432.1	As Found Span
			Average Correction Factor	1.0049

Calculated value of As Found Response: 433.5 ppb Percent Change of As Found: -6.3%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	239.8	ppb	230.8	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

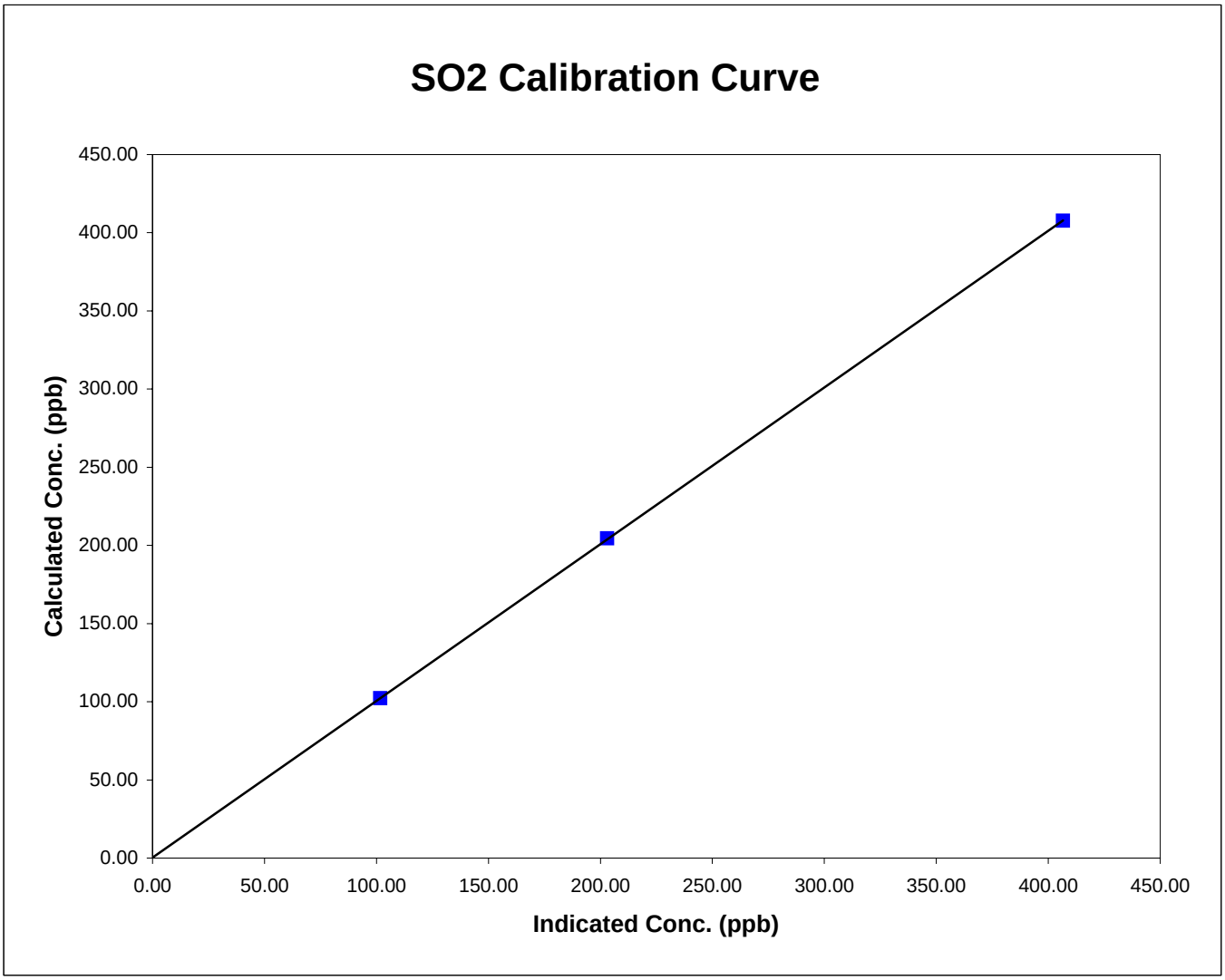
Air Monitoring Network **PASZA**

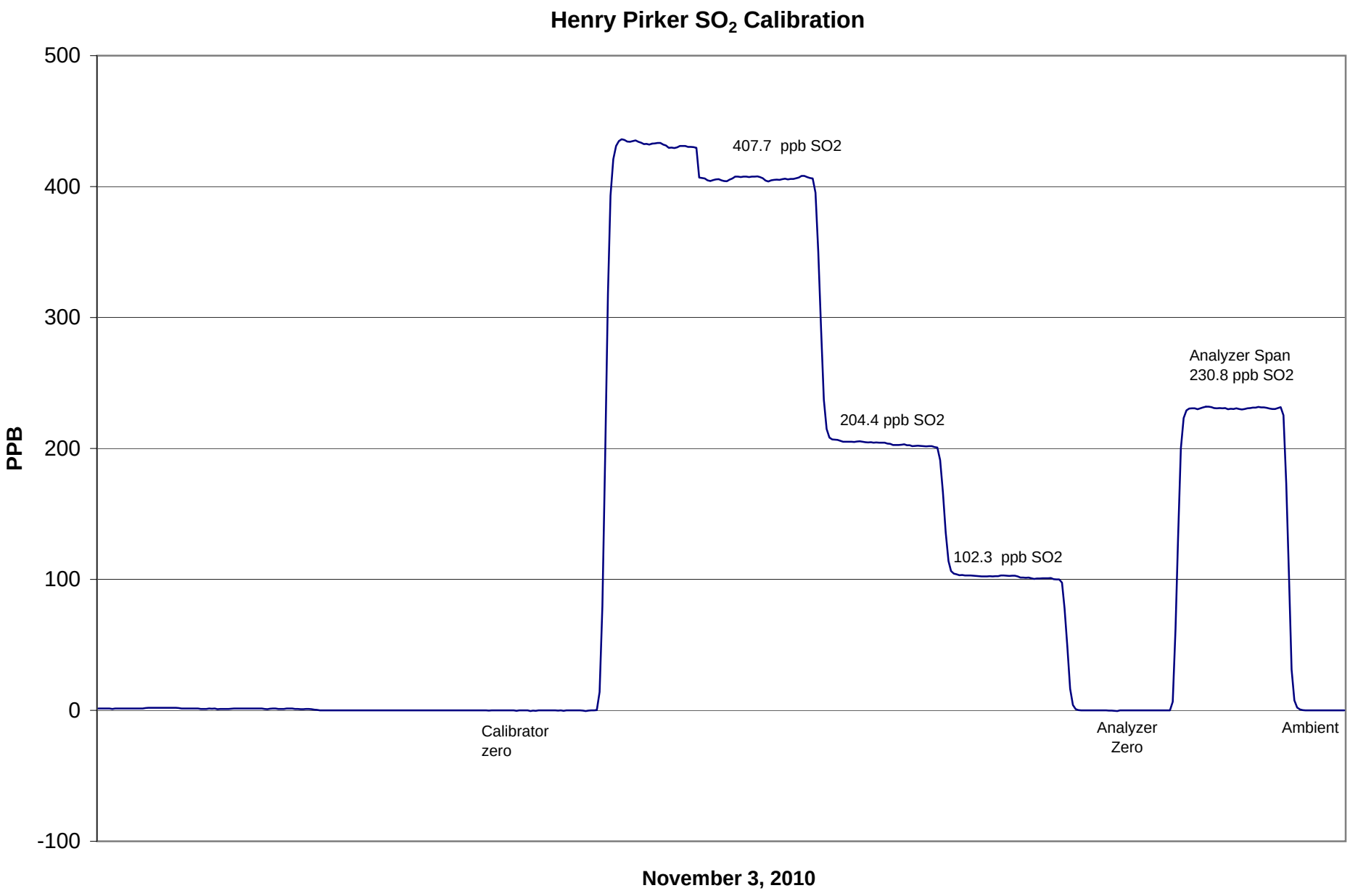
Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:45	End Time (MST)	11:52
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
407.7	406.5	1.0030	Correlation Coefficient	0.999997
204.4	203.1	1.0065		
102.3	101.7	1.0051	Slope	1.002798
			Intercept	0.289448




Henry Pirker SO_2 Calibration
500
400
300
200
100
0
-100
PPB
407.7 ppb SO2
204.4 ppb SO2
102.3 ppb SO2
Analyzer Span
230.8 ppb SO2
Calibrator
zero
Analyzer
Zero
Ambient
November 3, 2010

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:40	End Time (MST)	15:22
Barometric Pressure	0.935 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.15 ppb	Cal Gas Expiry Date	7/31/2008
		Cal Gas Cylinder #	ALM013295
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.997303	Calculated slope	1.008176
Calculated intercept	0.669447	Calculated intercept	0.015566
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.084		1.084	
Background	10.3		10.3	
Pressure	662.6	mm Hg	665.7	mm Hg
Flow	0.461	ccm	0.463	ccm
Lamp Voltage	825	V	825	V

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4991	0.00	0.00	0.06	N/A
4991	79.78	81.03	80.44	1.0073
4991	39.87	40.81	40.29	1.0129
4991	9.93	10.23	10.14	1.0085
4991	0.00	0.00	0.06	As Found Zero
4991	79.78	81.03	80.44	As Found Span
			Average Correction Factor	1.0096

Calculated value of As Found Response: 80.8 ppb Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.34	ppb
Auto span	26.30	ppb	24.00	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **TRS**

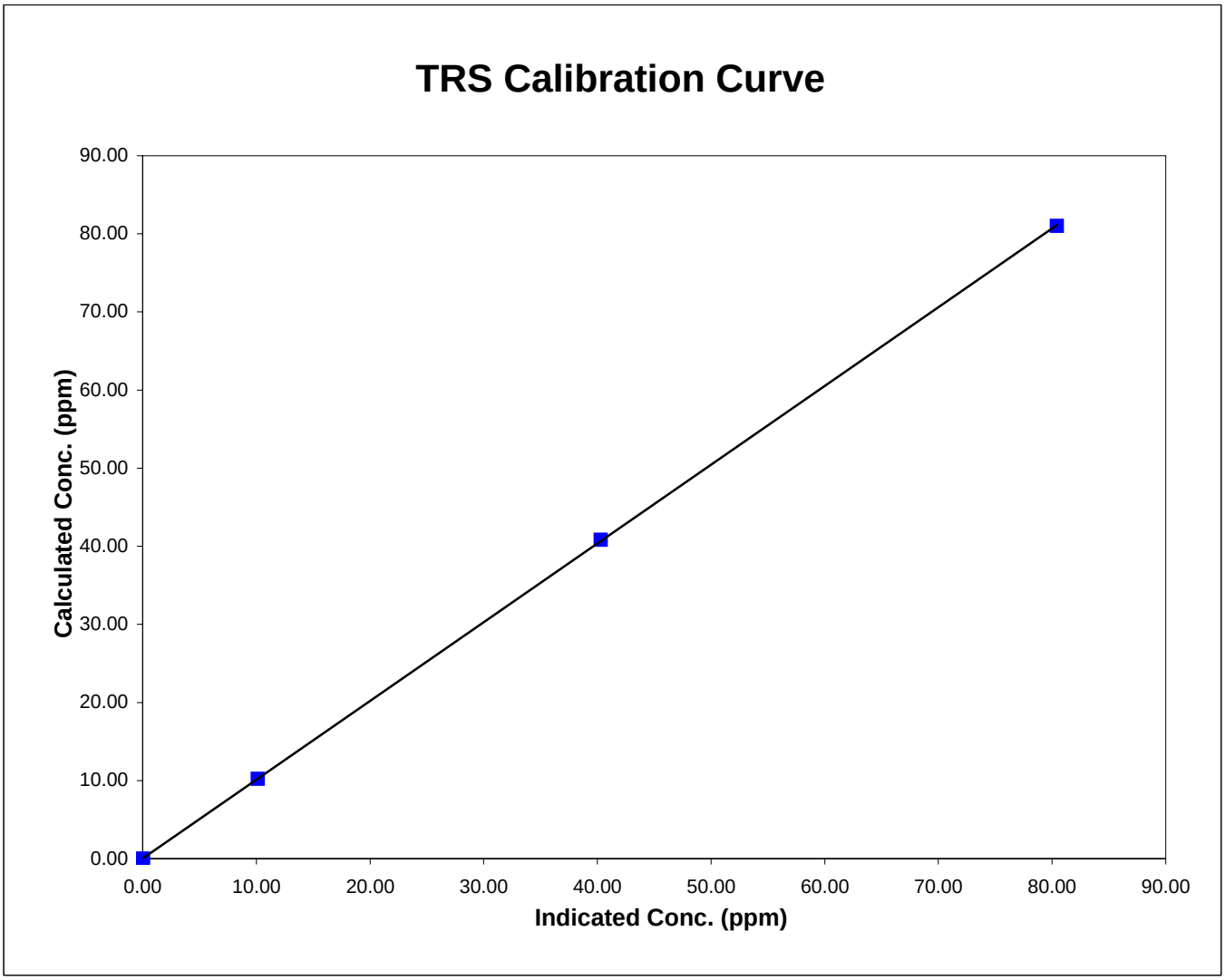
Air Monitoring Network **PASZA**

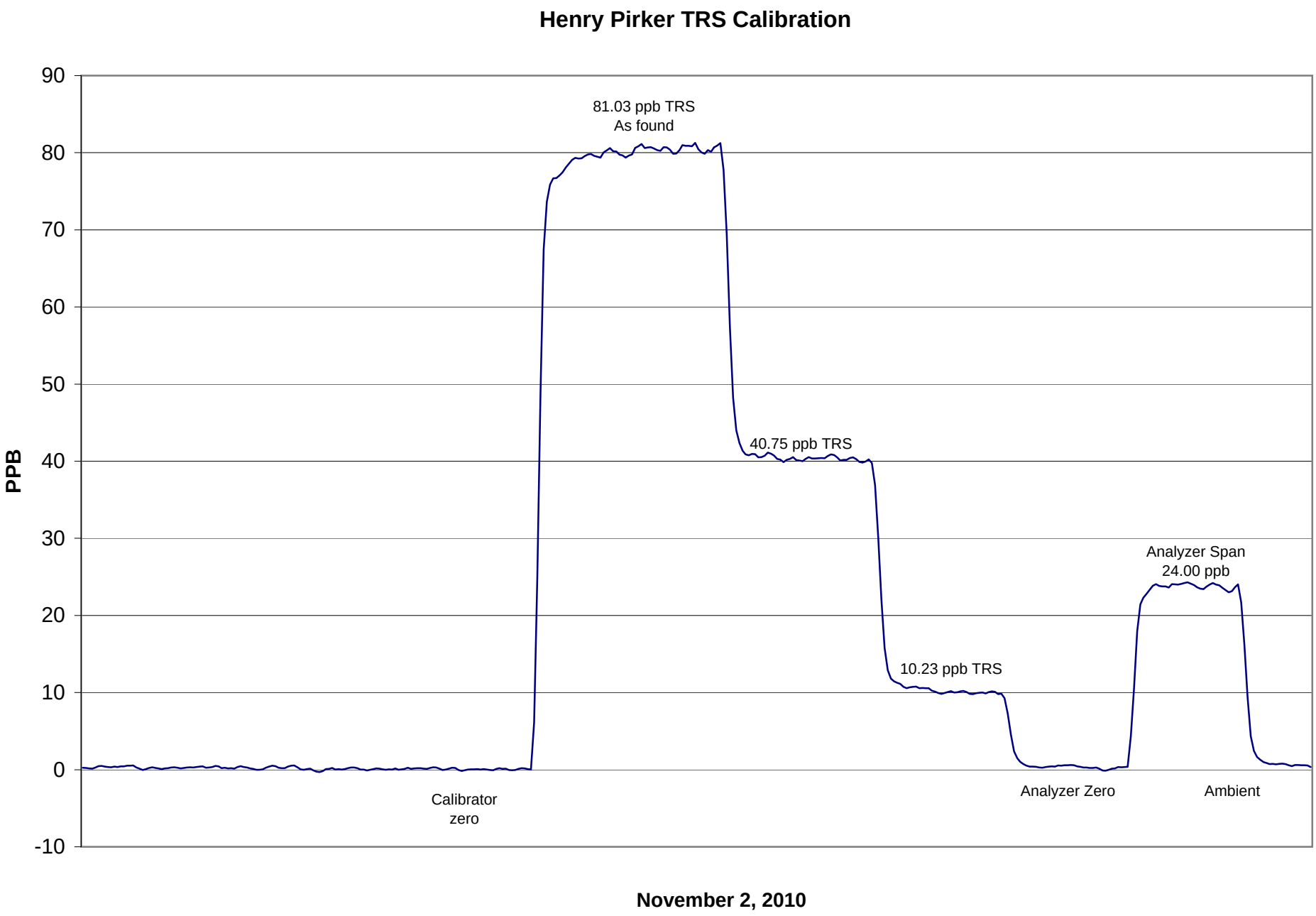
Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:40	End Time (MST)	15:22
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.060	N/A		
81.026	80.439	1.0073	Correlation Coefficient	0.999989
40.814	40.294	1.0129		
10.226	10.140	1.0085	Slope	1.008176
			Intercept	0.015566




Henry Pirker TRS Calibration
PPB
90
80
70
60
50
40
30
20
10
0
-10
81.03 ppb TRS
As found
40.75 ppb TRS
10.23 ppb TRS
Analyzer Span
24.00 ppb
Calibrator
zero
Analyzer Zero
Ambient
November 2, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	8:45		End Time (MST)	13:42	
Barometric Pressure	0.935	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	50.8	ppm	Cal Gas Expiry Date	April 6, 2012	
NOx Cal Gas Conc	50.8	ppm	Cal Gas Serial #	SGAL3245	

DACS Information

DACS make: Focus AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	1.003940	1.001796	1.001461
	Data Offset	-0.316878	-1.616176	-1.828206
After	Data Slope	0.999030	1.004003	1.004037
	Data Offset	-0.191758	-1.307079	-1.405313
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model: TEI 42C Analyzer serial #: 508011073

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	10.6	mV	11.8	mV
NOx bkgnd	11.4	mV	13.1	mV
NO coefficient	0.791		0.768	
NOx coefficient	1.000		1.000	
NO2 conv temp	319.0	Deg C	318.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-786.0	mV
R Cell Press	174.5	in Hg	176.7	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 3, 2010 Station Location: Henry Pirker

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4991	0.00	0.0	0.0	0.0	-0.3	-0.4	0.0	N/A	N/A
1	4991	39.83	402.2	402.2	0.0	401.0	401.0	0.0	1.0029	1.0029
2	4991	19.89	201.6	201.6	0.0	203.1	203.2	-0.2	0.9930	0.9925
3	4991	9.93	100.9	100.9	0.0	103.2	103.6	-0.4	0.9770	0.9736
AFZ	4991	0.00	0.0	0.0	0.0	2.4	1.5	0.8	0.0000	0.0000
AFS	4991	39.83	402.2	402.2	0.0	414.1	414.3	-0.3	0.9712	0.9707
							Average Correction Factor		0.9909	0.9897

As Found Concentrations: NO_X= 410.1 NO= 411.0 As Found Percent Change NO_X= 2.0% NO= 2.2%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.85 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	1.5	1.5	0.0	-0.3	-0.4	0.0	N/A	N/A	N/A	N/A
NO point	401.3	401.3	0.0	401.1	401.3	-0.3	1.0007	1.0000	N/A	N/A
300	401.3	109.3	292.1	401.3	109.3	292.3	1.0000	1.0000	0.9991	100.1%
200	401.3	202.9	198.4	401.7	202.9	199.1	0.9991	1.0000	0.9967	100.3%
100	401.3	296.3	105.0	401.4	296.3	105.4	0.9998	1.0000	0.9963	100.4%
					Average Correction Factor		0.9997	1.0000	0.9974	100.3%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	-2.4	-1.0	-1.5	ppb
Auto span	168.4	169.5	1.2	ppb	167.6	168.1	-0.5	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

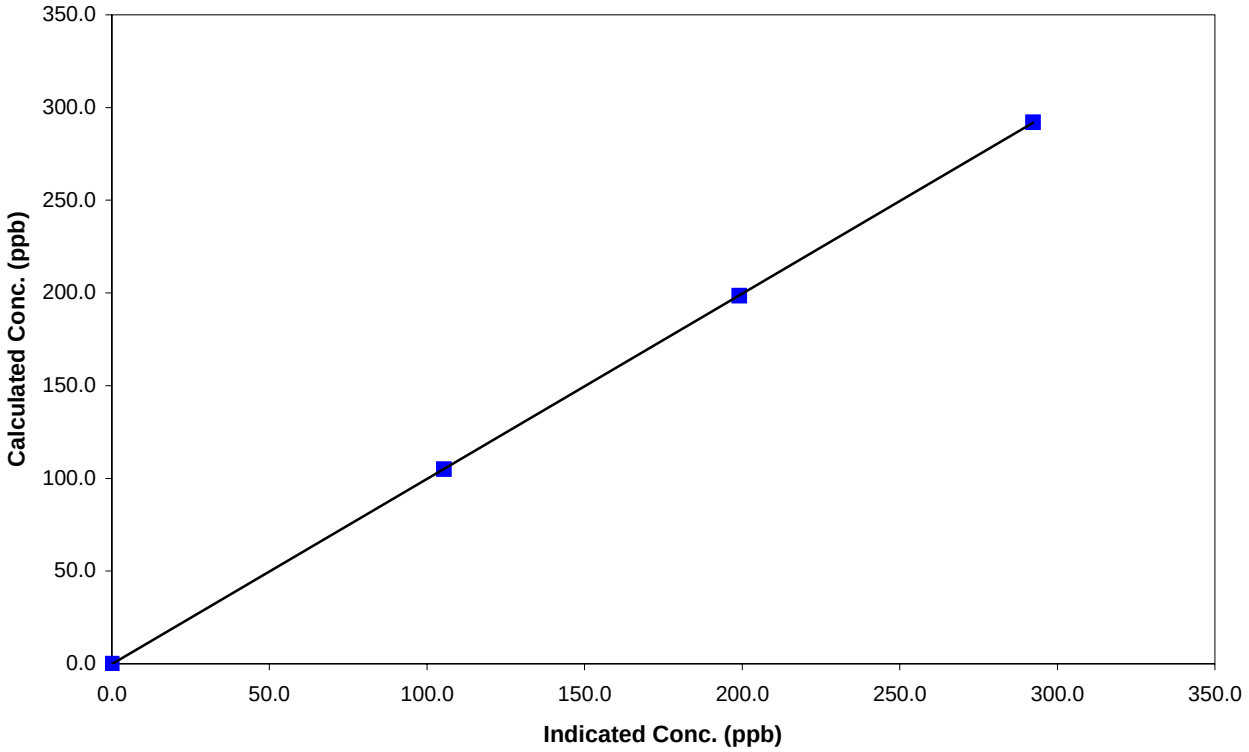
Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:45	End Time (MST)	13:42
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
292.1	292.3	0.9991	Correlation Coefficient	0.999997
198.4	199.1	0.9967		
105.0	105.4	0.9963	Slope	0.999030
			Intercept	-0.191758

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

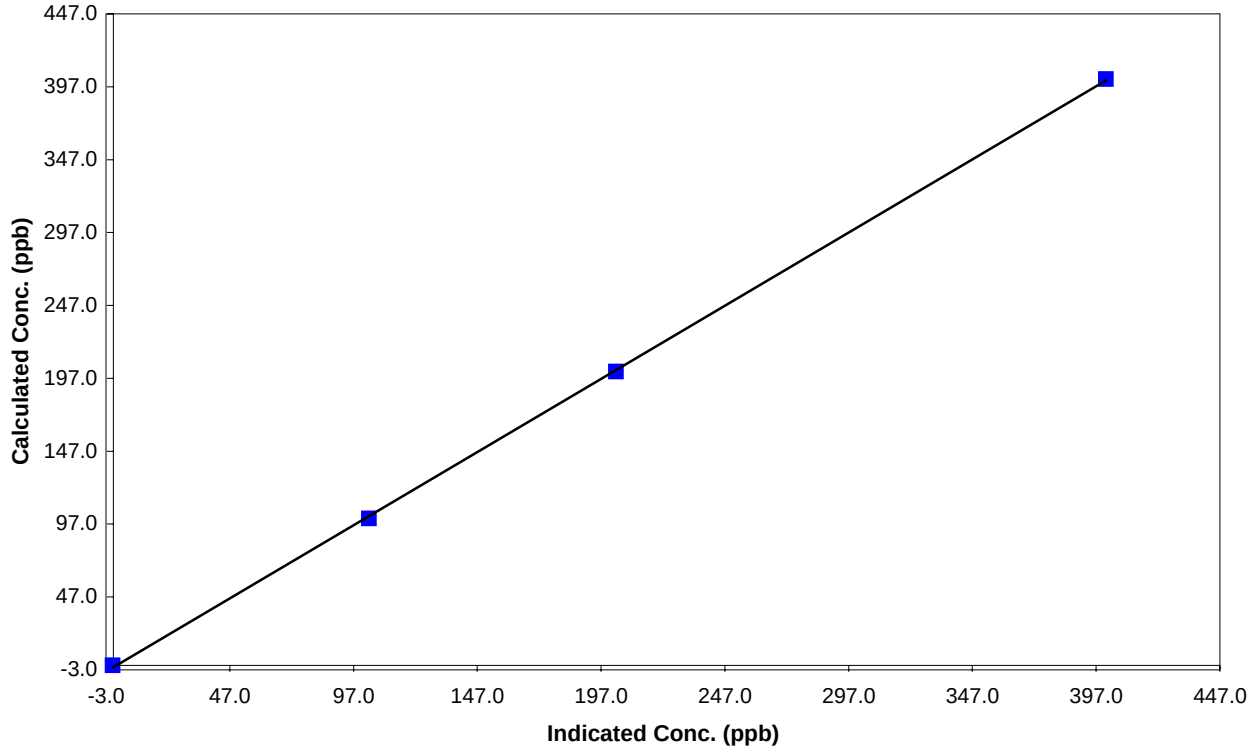
Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:45	End Time (MST)	13:42
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
402.2	401.0	1.0029	Correlation Coefficient	0.999930
201.6	203.1	0.9930		
100.9	103.2	0.9770	Slope	1.004003
			Intercept	-1.307079

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

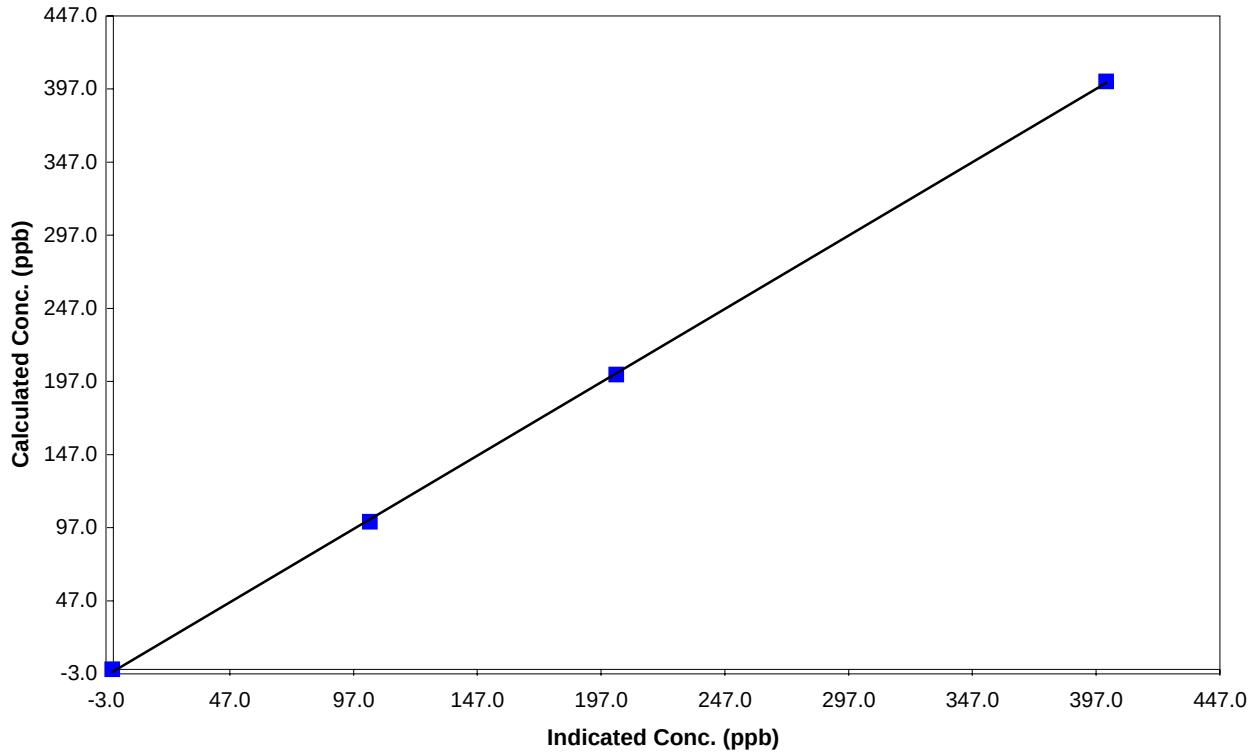
Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:45	End Time (MST)	13:42
Analyzer make	TEI 42C	Analyzer serial #	508011073

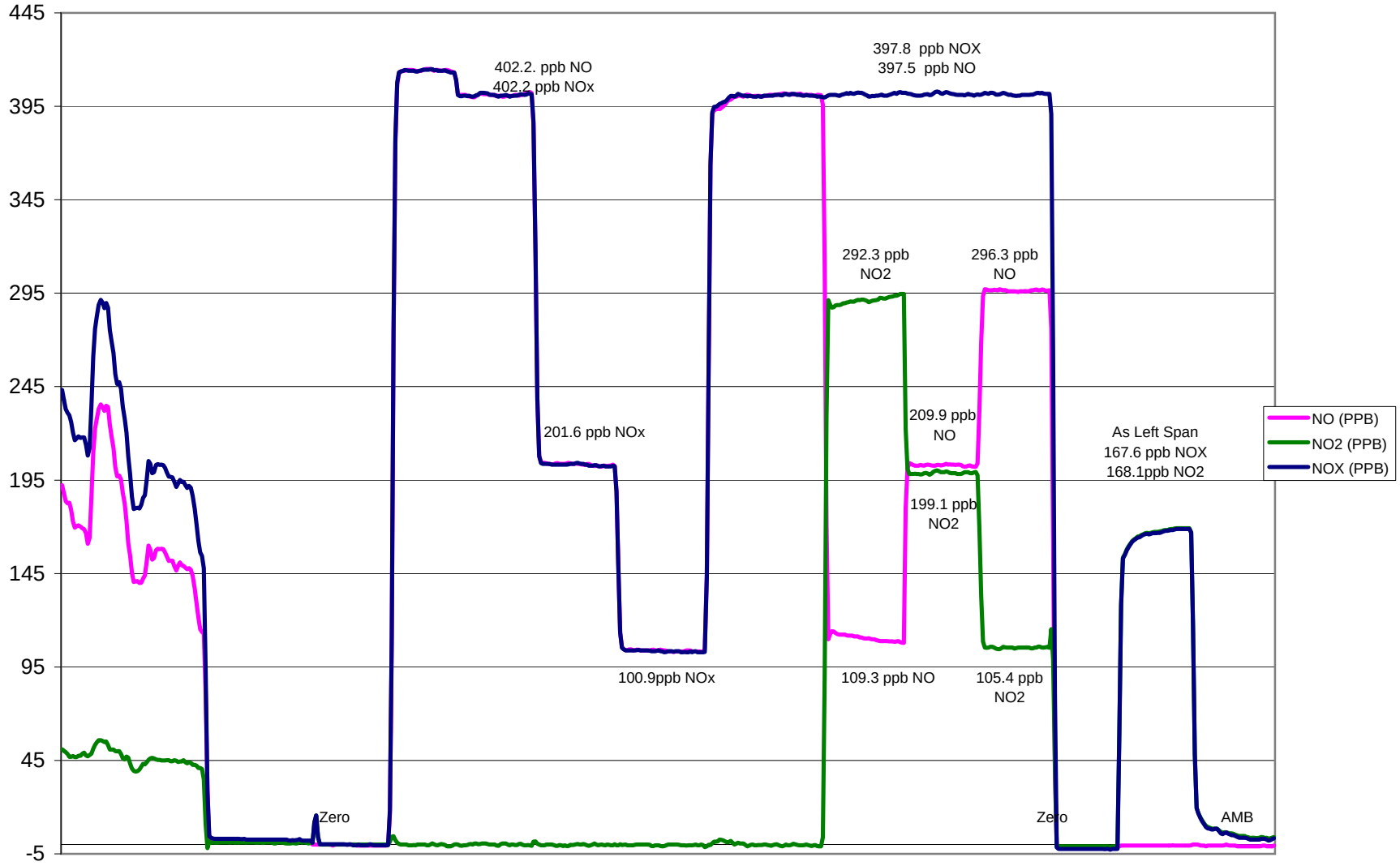
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A		
402.2	401.0	1.0029	Correlation Coefficient	0.999911
201.6	203.2	0.9925		
100.9	103.6	0.9736	Slope	1.004037
			Intercept	-1.405313

NO Calibration Curve



Henry Pirker NO_X Calibration



November 3, 2010

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:20	End Time (MST)	14:38
Barometric Pressure	0.935 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	0.997259	Calculated slope	0.986343
Calculated intercept	0.031354	Calculated intercept	0.064096
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-0.6	ppb
slope	1.030		1.030	
O3 Lamp temp	71	Deg C	71	Deg C
Intensities	84827/73942	mV	84642/73417	mV
Pressure	708.5	inches Hg	697.4	inches Hg
Flow A	0.734	ccm	0.722	ccm
Flow B	0.731	ccm	0.737	ccm

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4991	0.0	0.1	N/A
300	4991	292.1	296.4	0.9854
200	4991	198.4	200.5	0.9893
100	4991	105.0	106.4	0.9867
0	4991	0.0	0.1	As found zero
300	4991	292.1	296.4	As found span
			Average Correction Factor	0.9871

Calculated value of As Found Response: 295.6 ppm Percent Change of As Found: 1.2%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	153.0	ppb	154.4	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **O3**

Air Monitoring Network **PASZA**

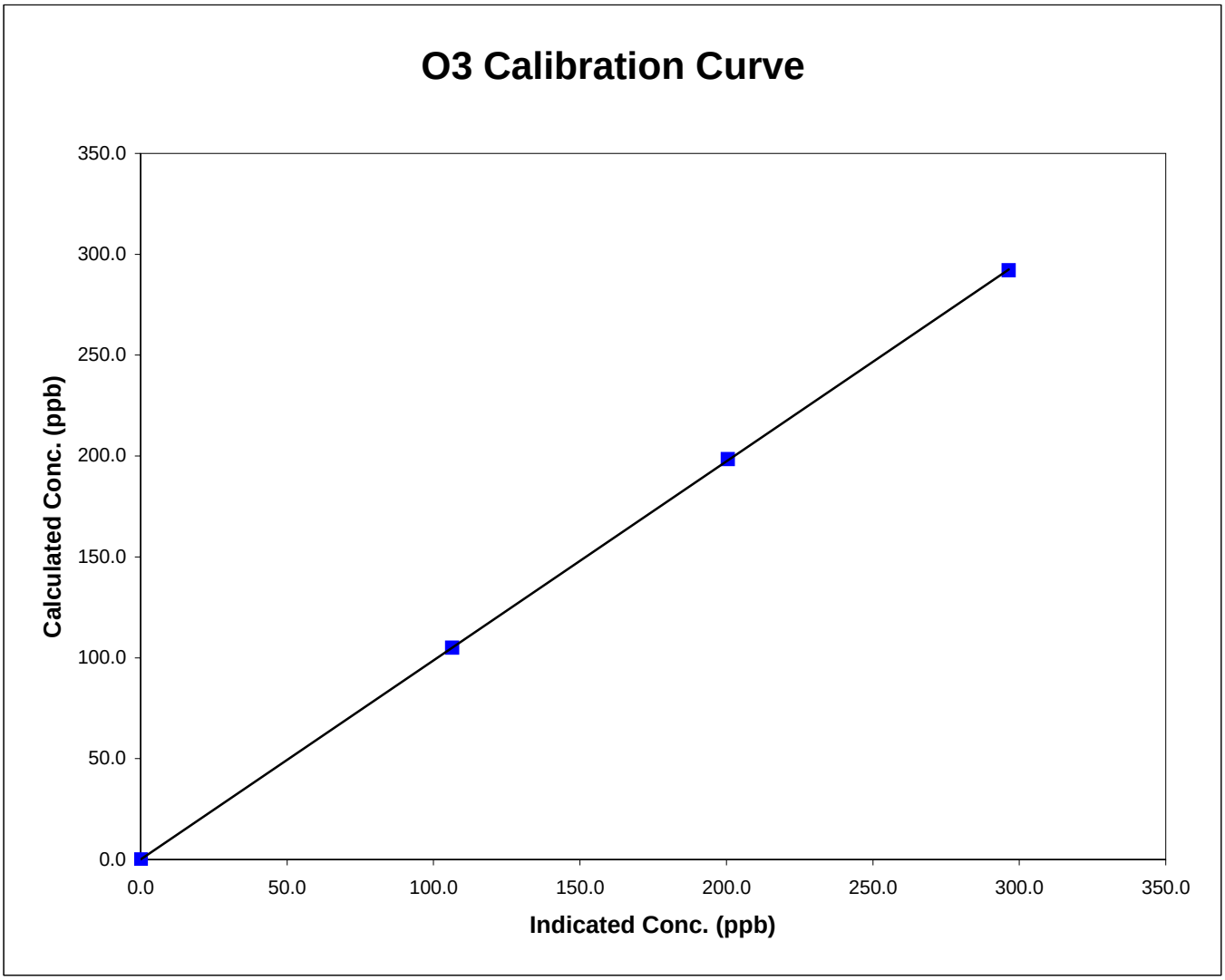
FOCUS AIR QUALITY MONITORING

Station Information

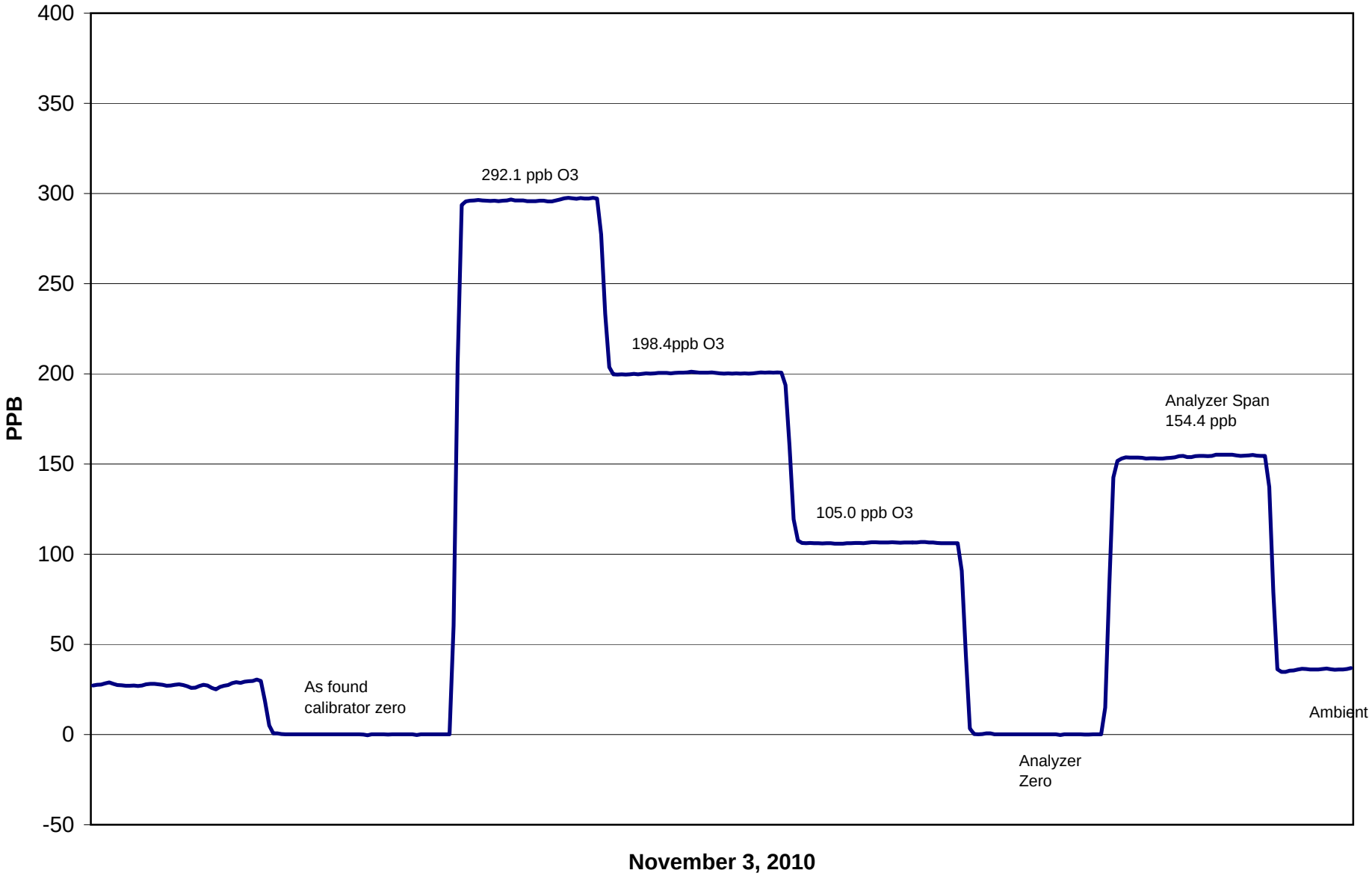
Calibration Date	November 3, 2010	Previous Calibration	October 6, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:20	End Time (MST)	14:38
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
292.1	296.4	0.9854	Correlation Coefficient	0.999991
198.4	200.5	0.9893		
105.0	106.4	0.9867	Slope	0.986343
			Intercept	0.064096



Henry Pirker O_3 Calibration



Calibration Report

Parameter **CO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:00	End Time (MST)	13:26
Barometric Pressure	0.935 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	3000 ppm	Cal Gas Expiry Date	AUG 28/05
		Cal Gas Cylinder #	AAL20565
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.019748	Calculated slope	1.006951
Calculated intercept	-0.167079	Calculated intercept	-0.499583
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.062		1.062	
CO zero setting	9.774		9.782	
Sample pressure	693.2	mm Hg	682.3	mm Hg
Sample Flow	1.152	LPM	1.151	LPM

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4991	0.00	0.00	0.41	N/A
4991	39.84	23.76	24.04	0.9882
4991	19.90	11.91	12.38	0.9621
4991	9.95	5.97	6.50	0.9182
4991	0.00	0.00	0.41	As Found Zero
4991	39.84	23.76	24.04	As Found Span
			Average Correction Factor	0.9562

Calculated value of As Found Response: 23.930 ppm Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.43	ppm	19.85	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **CO**

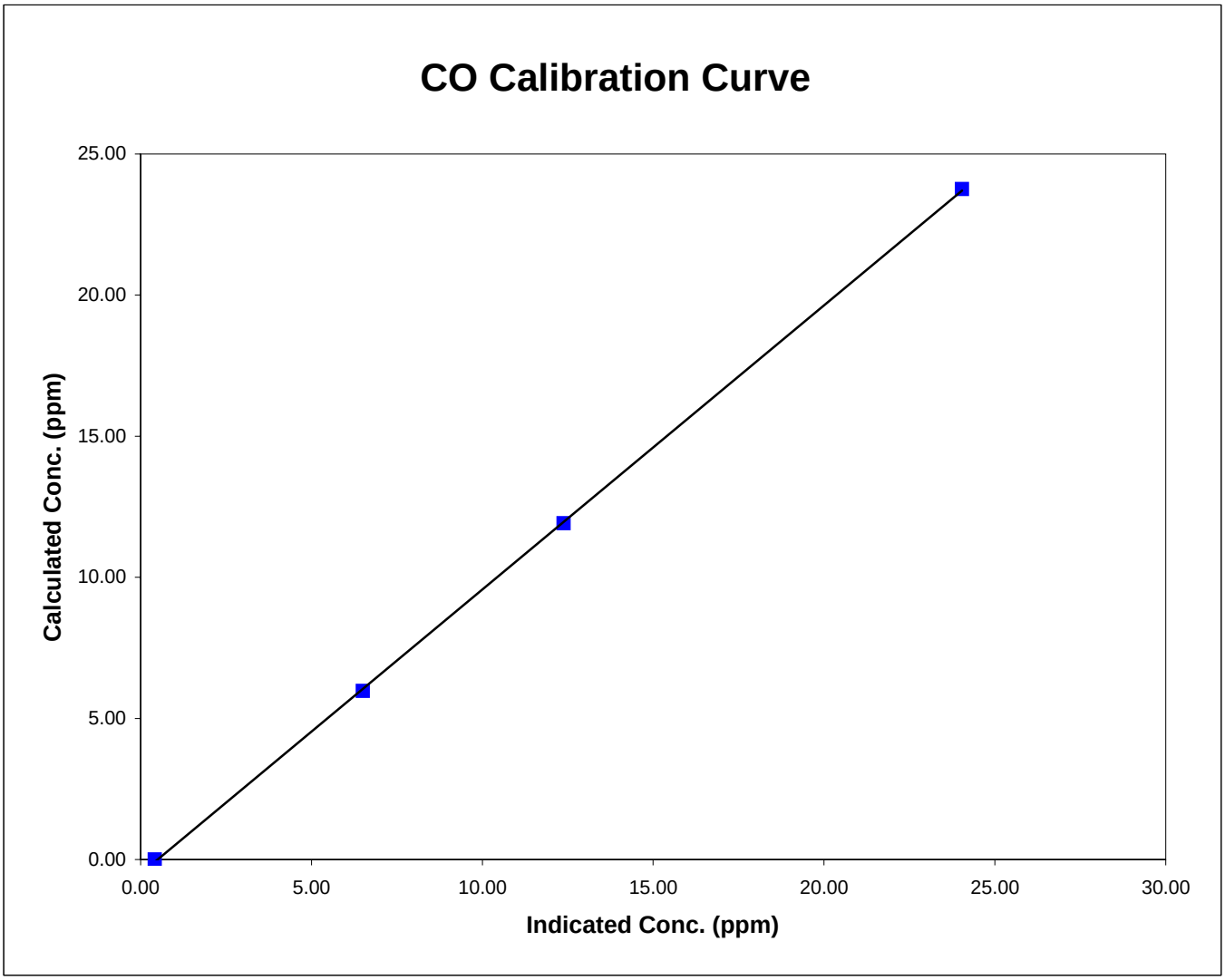
Air Monitoring Network **PASZA**

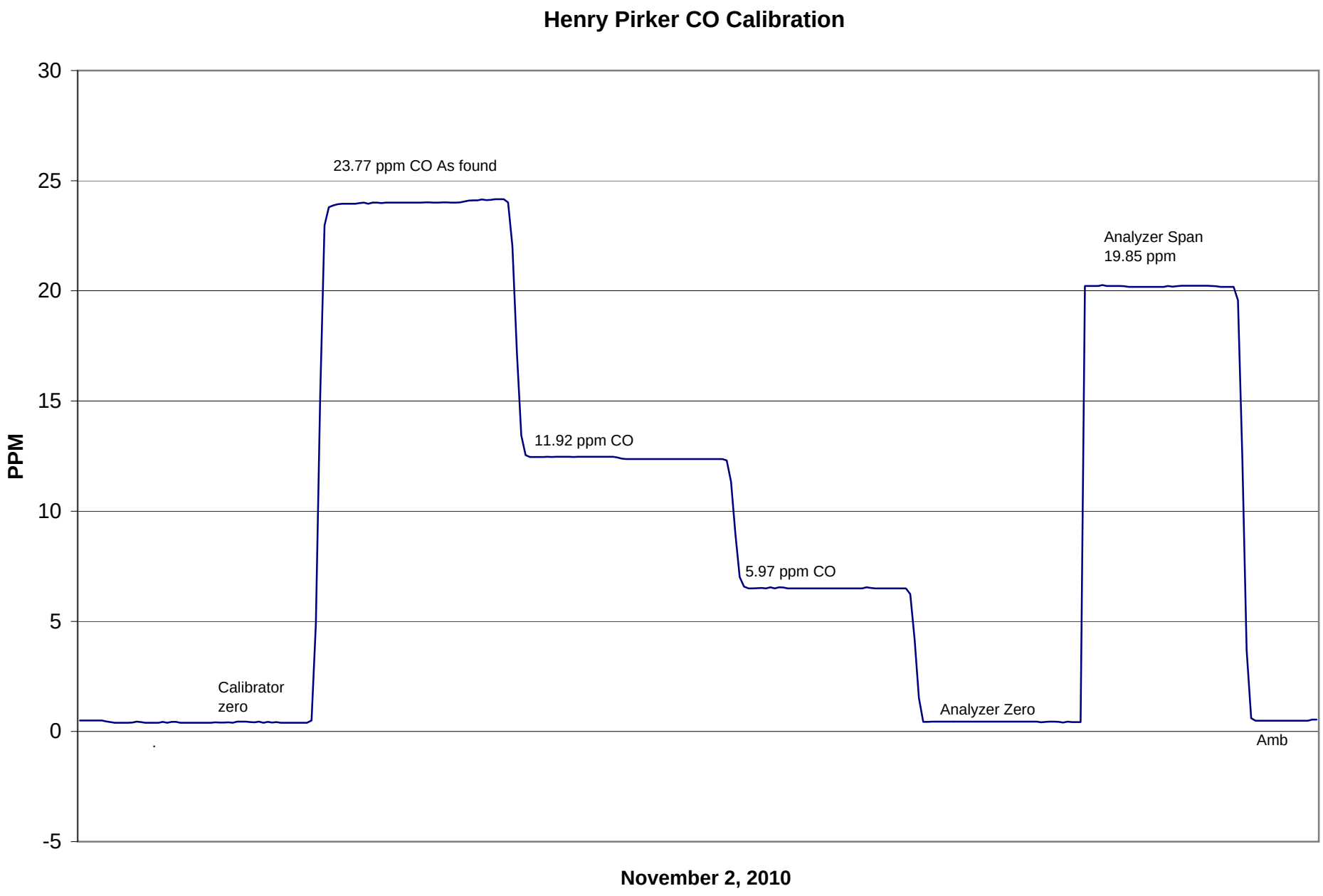
Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	13:26
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.412	N/A		
23.757	24.042	0.9882	Correlation Coefficient	0.999940
11.914	12.383	0.9621		
5.969	6.501	0.9182	Slope	1.006951
			Intercept	-0.499583




Henry Pirker CO Calibration
30
25
20
15
10
5
0
-5
PPM
23.77 ppm CO As found
11.92 ppm CO
5.97 ppm CO
Analyzer Span
19.85 ppm
Calibrator
zero
Analyzer Zero
Amb
November 2, 2010

Calibration Report

Parameter **THC**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:55	End Time (MST)	12:20
Barometric Pressure	0.935 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	701 ppm CH4/ 299 ppm C3H8	Cal Gas Expiry Date	2/4/2010
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.000693	Calculated slope	1.000943
Calculated intercept	0.121766	Calculated intercept	0.132560
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	9617	capture	9616	capture
THC zero counts	448	capture	446	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	-0.13	N/A
4991	69.73	20.99	20.86	1.0060
4991	29.90	9.07	8.85	1.0254
4991	9.92	3.02	2.94	1.0275
4991	0.00	0.00	-0.13	As Found Zero
4991	69.73	20.99	20.86	As Found Span
			Average Correction Factor	1.0196

Calculated value of As Found Response: 21.131 ppm Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	0.10	ppm	-0.01	ppm
Auto span	25.45	ppm	20.65	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **THC**

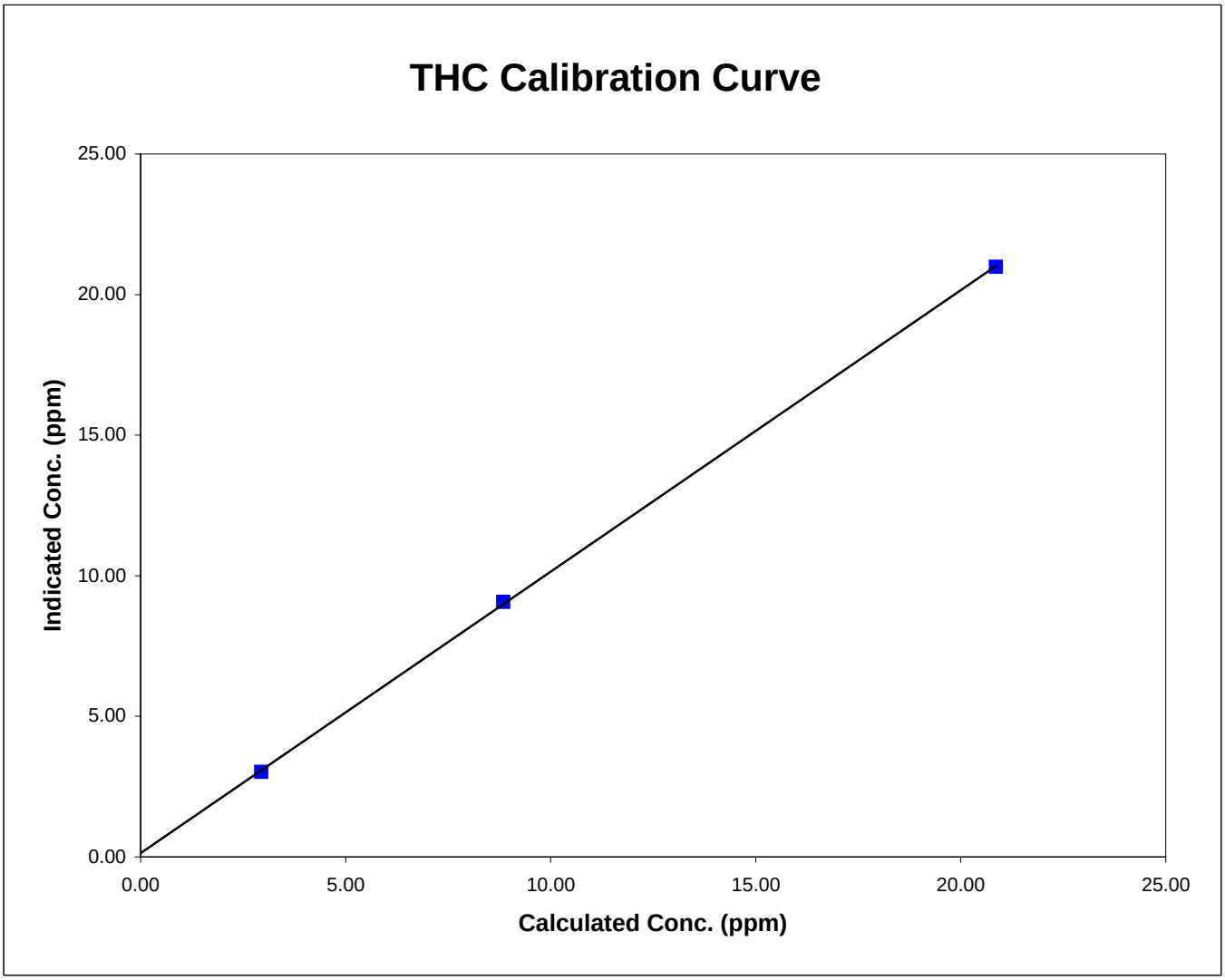
Air Monitoring Network **PASZA**

Station Information

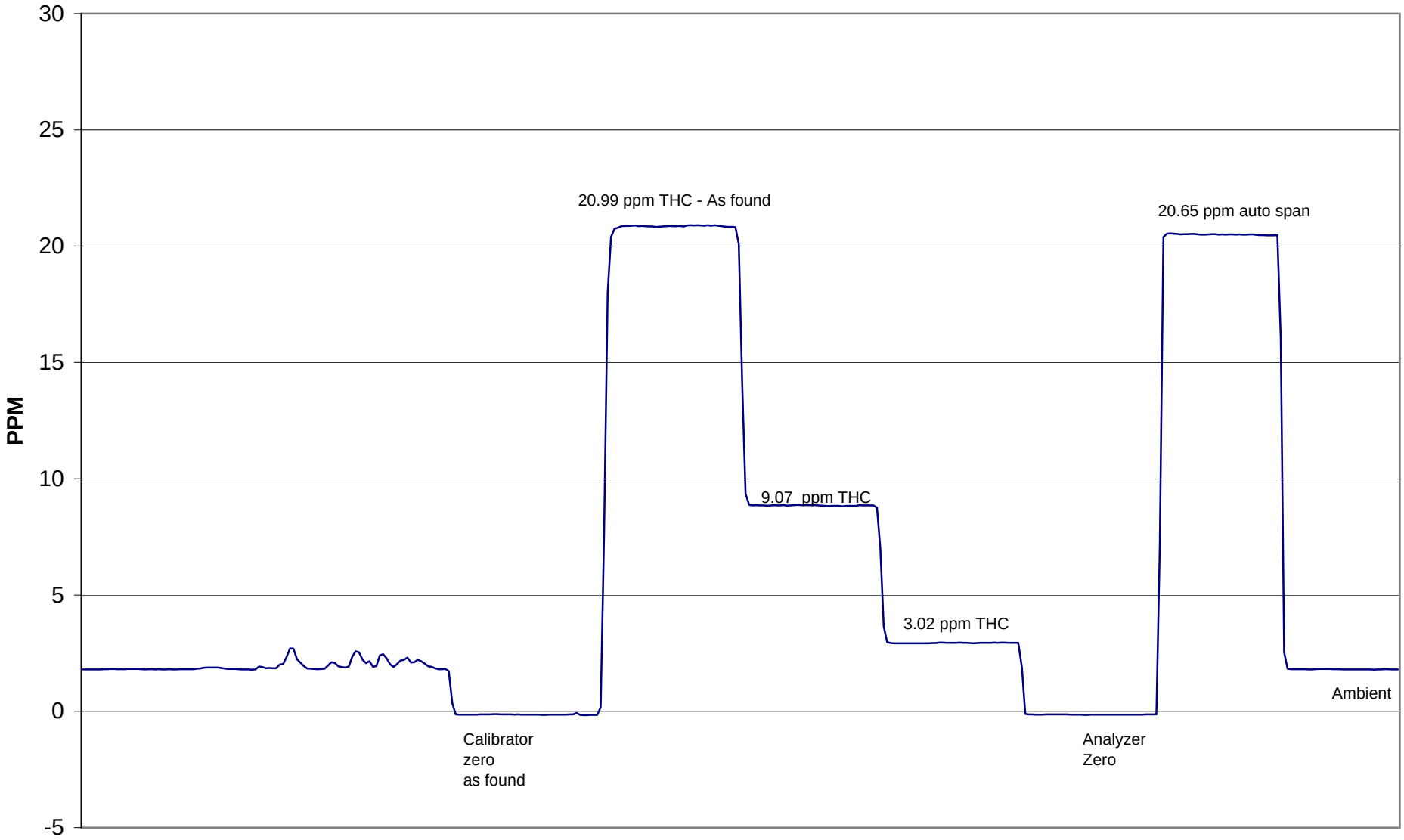
Calibration Date	November 2, 2010	Previous Calibration	October 5, 2010
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:55	End Time (MST)	12:20
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.131	N/A		
20.988	20.864	1.0060	Correlation Coefficient	0.999958
9.071	8.846	1.0254		
3.022	2.941	1.0275	Slope	1.000943
			Intercept	0.132560



Henry Pirker THC Calibration



November 2, 2010

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 11, 2010	Previous Calibration	October 12, 2010
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:
Start Time (MST)	8:57	End Time (MST)	11:18
Barometric Pressure	0.929 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	51.5 ppm	Cal Gas Expiry Date	4/6/2012
Correction factor	0.031579	Cal Gas Cylinder #	SGAL3245
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	6
	Before		After
Calculated slope	1.004049	Calculated slope	1.018286
Calculated intercept	-2.213429	Calculated intercept	-0.812808
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	10.8		10.9	
coefficient	1.051		1.051	
Lamp Voltage	828	volts	831	volts
Chamber Temp	45.1	Deg C	45.4	Deg C
Perm Gas Temp	45.00	Deg C	45	Deg C
Pressure	675.3	mm Hg	669.2	mm Hg
Sample Flow	0.457	ccm	0.454	ccm
Lamp Intensity	91	%	90	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.0	0.00	0.3	N/A
4991	39.85	407.94	401.2	1.0168
4991	19.91	204.63	201.8	1.0138
4991	9.96	102.57	102.1	1.0046
	0.0			
4991	0.0	0.00	0.3	As Found Zero
4991	39.85	407.94	401.2	As Found Span
			Average Correction Factor	1.0117

Calculated value of As Found Response: 400.306 ppm Percent Change of As Found: 1.9%

	before calibration		after calibration	
Auto zero	0.7	ppm	0.2	ppm
Auto span	286.9	ppm	284.4	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

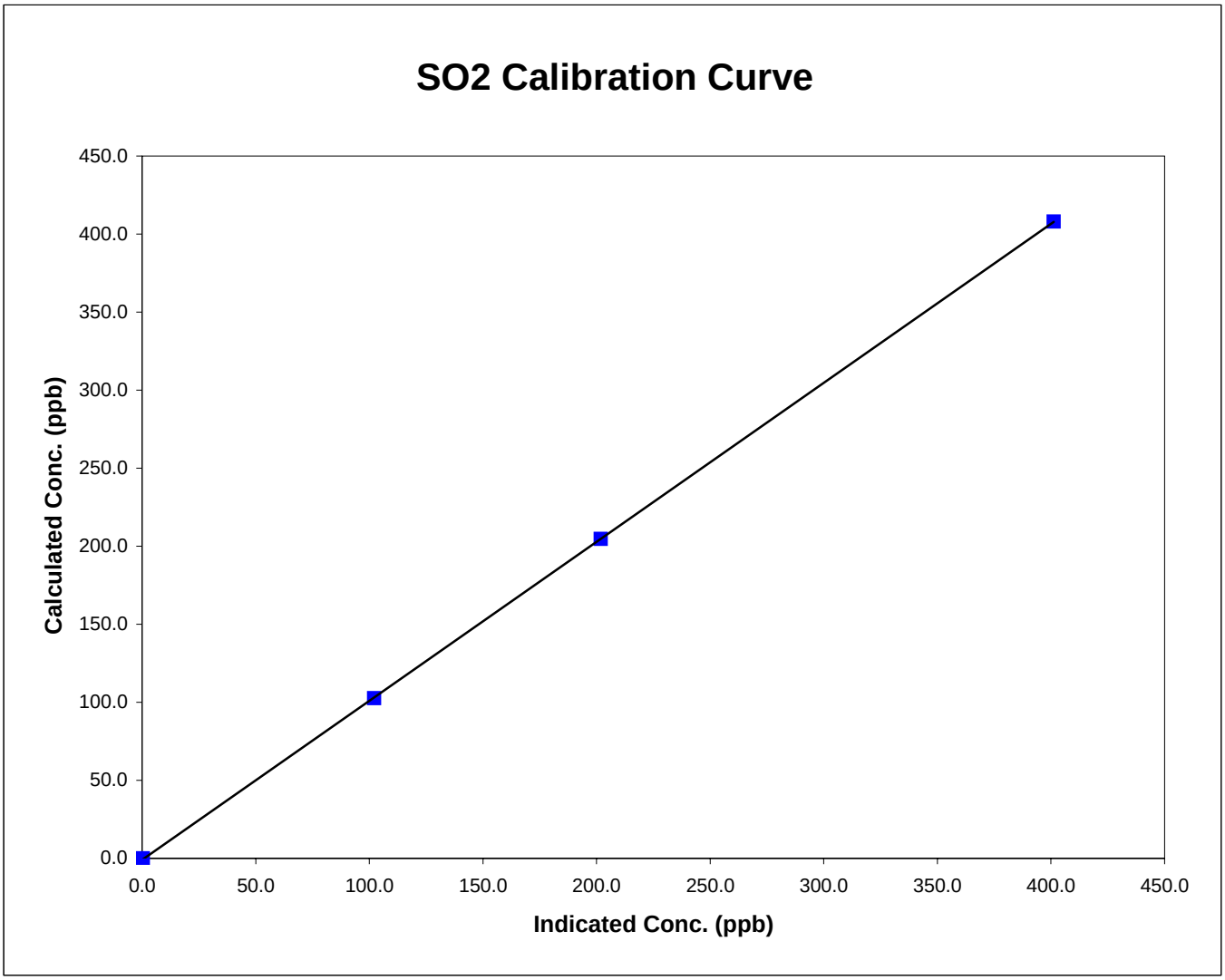
Air Monitoring Network **PASZA**

Station Information

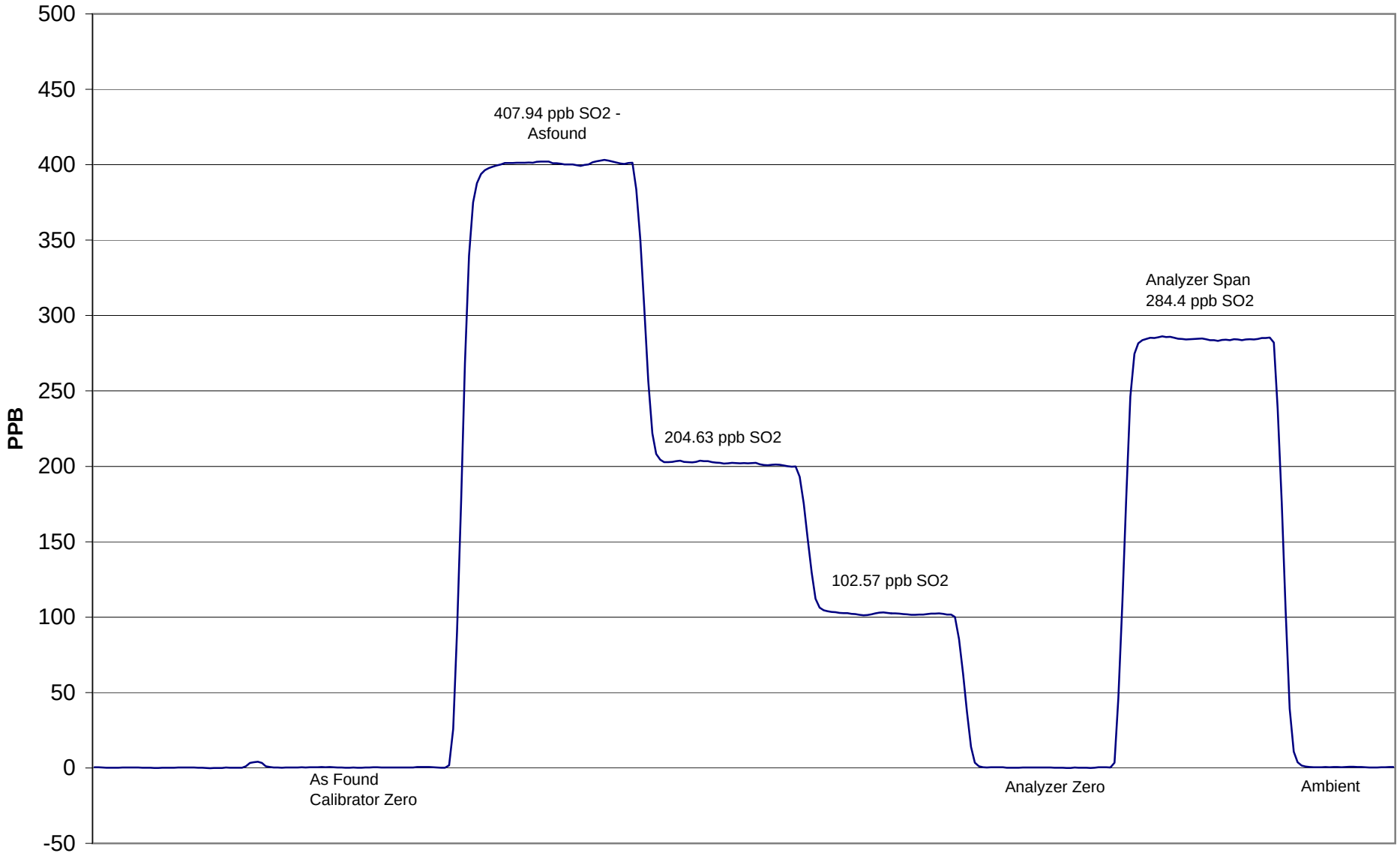
Calibration Date	November 11, 2010	Previous Calibration	October 12, 2010
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	8:57	End Time (MST)	11:18
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
407.9	401.2	1.0168	Correlation Coefficient	0.999993
204.6	201.8	1.0138		
102.6	102.1	1.0046	Slope	1.018286
			Intercept	-0.812808



Evergreen Park SO_2 Calibration



November 11, 2010

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 11, 2010	Previous Calibration	October 12, 2010
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:00	End Time (MST)	12:36
Barometric Pressure	0.908 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.15 ppm	Cal Gas Expiry Date	4/2/2009
Correction factor	0.030865	Cal Gas Cylinder #	ALM 013295
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	1.009497	Calculated slope	1.014594
Calculated intercept	-0.199681	Calculated intercept	0.276488

Analyzer make	TEI Model 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.7	ppb	16	ppb
coefficient	0.859		0.859	
Lamp Voltage	807	volts	808	volts
Chamber Temp	44.4	Deg C	44.1	Deg C
Perm Gas Temp	44.9	Deg C	45.02	Deg C
Pressure	646.1	mm Hg	645.8	mm Hg
Sample Flow	0.482	ccm	0.479	ccm
Lamp Intensity	45,732	mv	45,619	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.00	0.2	N/A
4991	79.79	81.04	79.8	1.0159
4991	39.87	40.81	39.7	1.0278
4991	9.95	10.25	9.4	1.0865
4990	0.00	0.00	0.2	As Found Zero
4991	79.79	81.04	79.8	As Found Span
			Average Correction Factor	1.0434

Calculated value of As Found Response: 80.12 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	-0.5	ppm	0.5	ppm
Auto span	62.0	ppm	64.6	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **TRS**

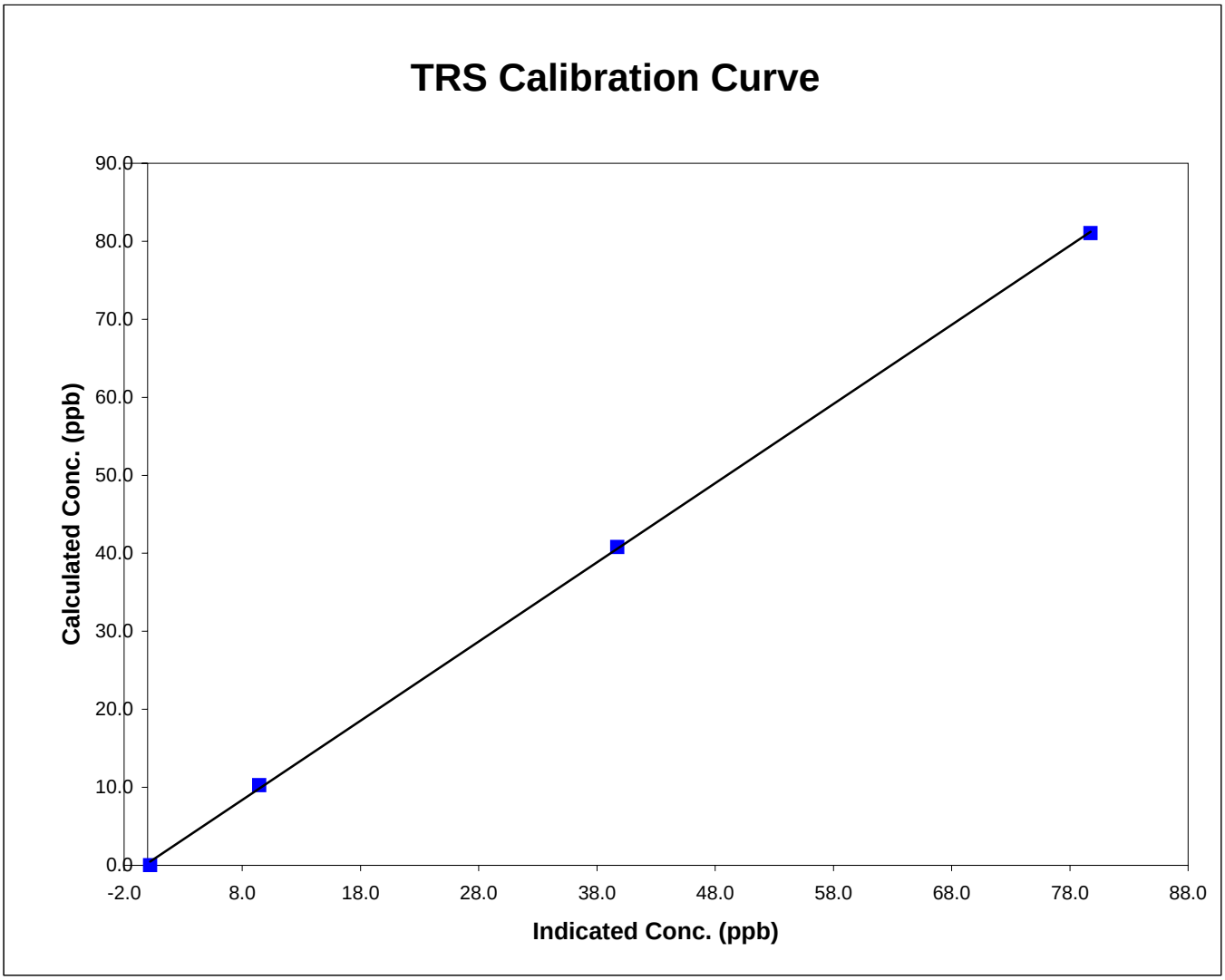
Air Monitoring Network **PASZA**

Station Information

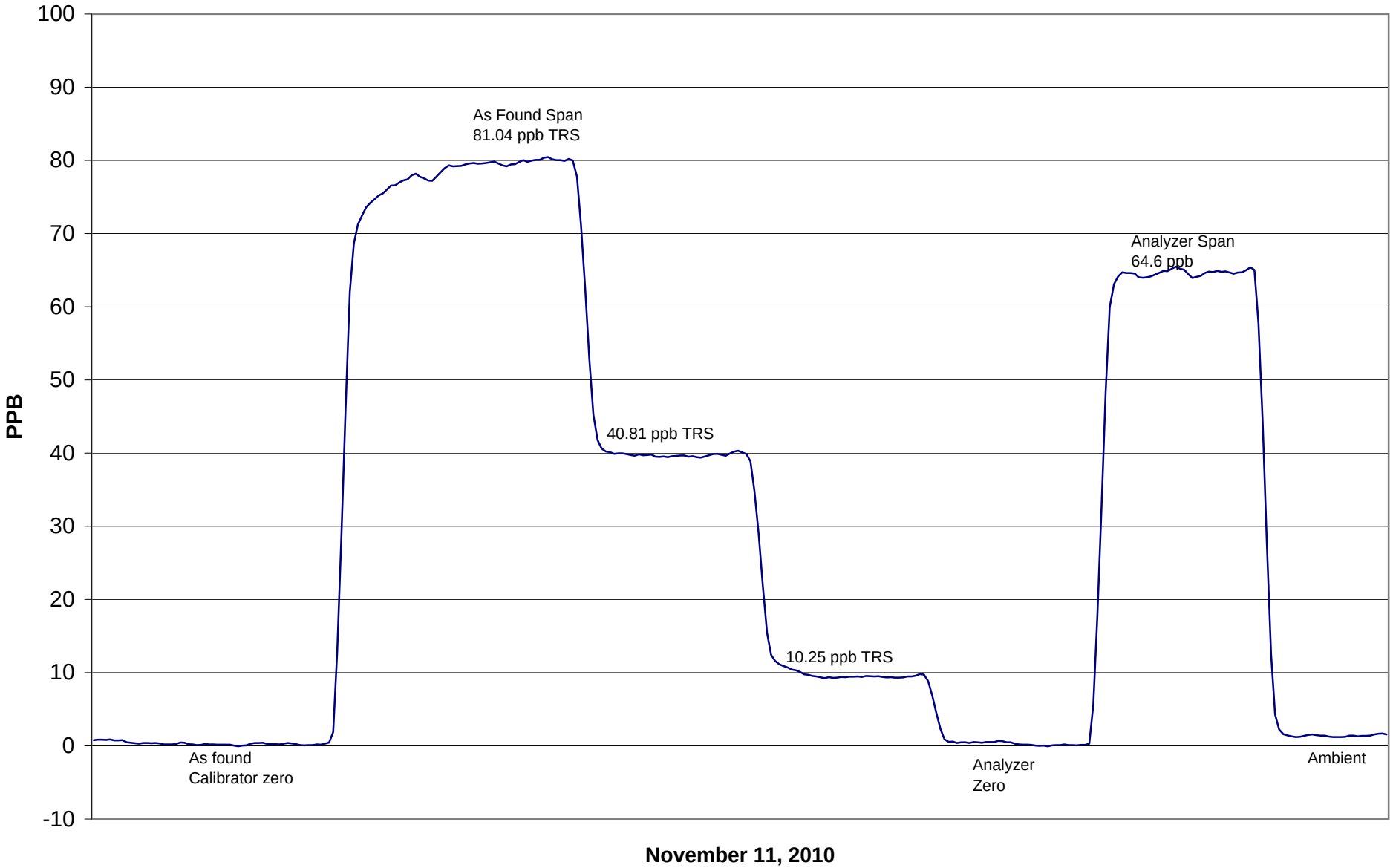
Calibration Date	November 11, 2010	Previous Calibration	October 12, 2010
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:00	End Time (MST)	12:36
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
81.0	79.8	1.0159	Correlation Coefficient	0.999879
40.8	39.7	1.0278		
10.2	9.4	1.0865	Slope	1.014594
			Intercept	0.276488



Evergreen Park TRS Calibration



November 11, 2010

AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Evergreen Park**

LOCATION: PASZA - Grande Prairie

OPERATOR: Courtney Thompson

DATE: 11-Nov-10

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21551
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	0.985
FAdj. Aux. Setting	0.975
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

(vs. specified depth of 15.5 cm from top of flow tube to top of concentric 1/2 in. tube)

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	14-Jun-10
Previous Calibration	NA

PUMP CAPACITY CHECK *	PASS

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.010	0.010
PUMP OFF	0.000	0.000
NET	0.010	0.010
LIMITS	*<0.15*	*<0.60*

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	10124	13.67	3.000
	INDICATED (I)	0.7	0.908		13.67	2.990
As Found Data	MEASURED (AF)	0.2	0.908		13.71	3.020
Adjusted Data	MEASURED (M)	0.2	0.908	10118	13.71	3.020
	DIFFERENCE (M-I)	-0.5	0.000	-0.1%	0.29	0.67
	LIMITS	*± 2 ^{0} C*	*± 0.005 atm*	*± 2.5 %*	*± 1.0 L/min*	*± 0.2 L/min*

Ko Audit Filter data *Weight:* 0.11014 *Serial #:* *CVK 2123*

COMMENTS: PASS. Also note that the TEOM heads were cleaned as per monthly cleaning schedule. As well as filter change.

TEOM back online as 14:30

Sample Head Inspection/Cleaning: Large In Line Filter Inspection & Or Cleaning:

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 16, 2010	Previous Calibration	October 8, 2010
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	9:30	End Time (MST)	12:05
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	51.5 ppm	Cal Gas Cert Date	7/23/2010
Correction factor	0.031409	Cal Gas Cylinder #	SGAL 3245
DACS make	Focus AP1000	DACS serial No.	45272
DACS voltage range	0 - 10 volt	DACS channel #	6
	Before		After
Calculated slope	1.008231	Calculated slope	0.992854
Calculated intercept	-1.265438	Calculated intercept	-2.892386

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.7		8.7	
coefficient	0.692		0.692	
Lamp Voltage	921	volts	925	volts
Chamber Temp	45.1	Deg C	45	Deg C
Perm Gas Temp	44.99	Deg C	45	Deg C
Pressure	678.3	mm Hg	674.1	mm Hg
Sample Flow	0.447	ccm	0.445	ccm
Lamp Intensity	87	%	89	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.8	N/A
4989	39.84	408.00	412.6	0.9889
4989	19.91	204.71	210.6	0.9720
4989	9.95	102.51	108.1	0.9486
4989	0.0	0.00	0.8	As Found Zero
4989	39.84	408.00	412.6	As Found Span
			Average Correction Factor	0.9698

Calculated value of As Found Response: 413.943 ppm Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.7	ppb
Auto span	311.6	ppb	302.4	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

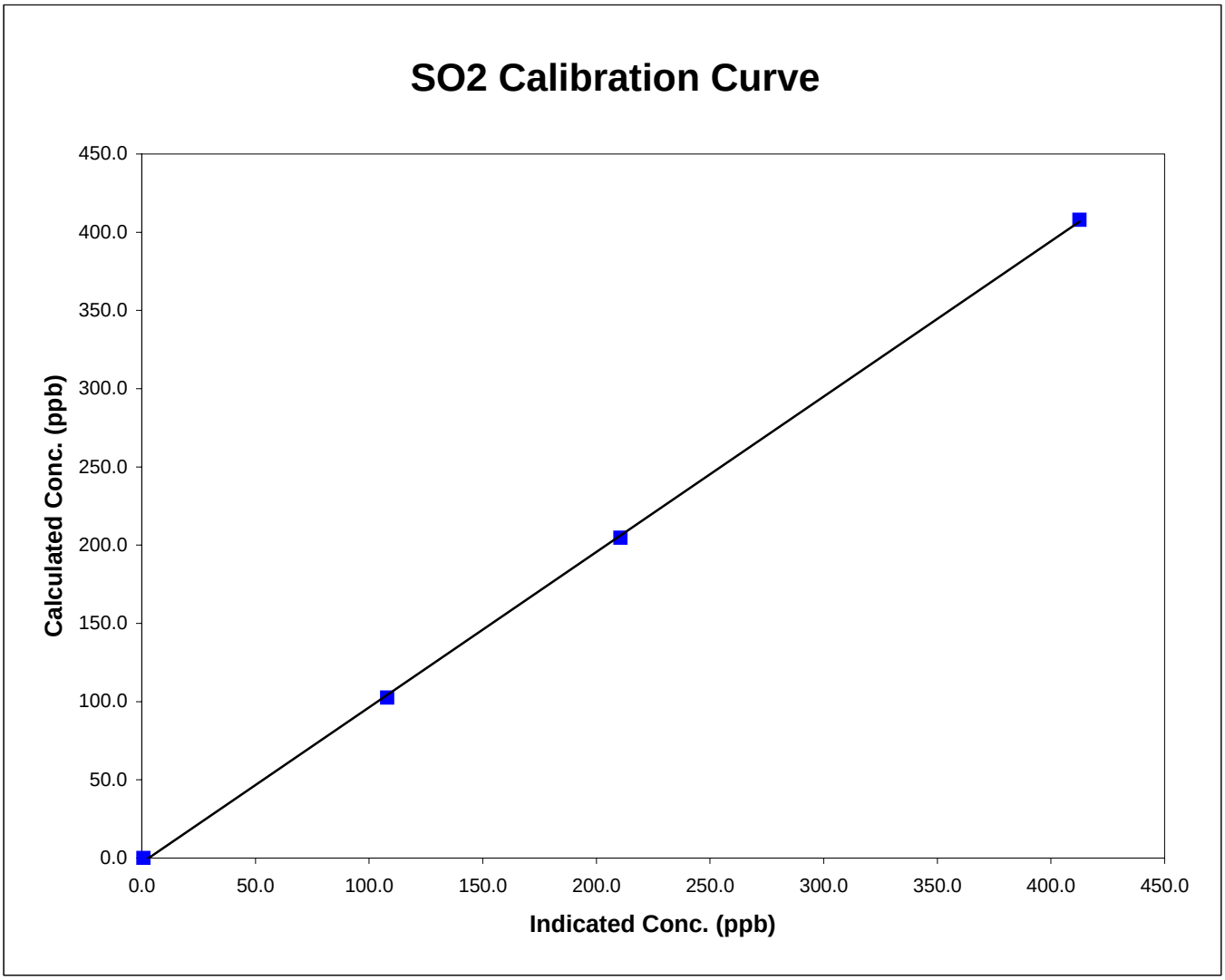
Air Monitoring Network **PASZA**

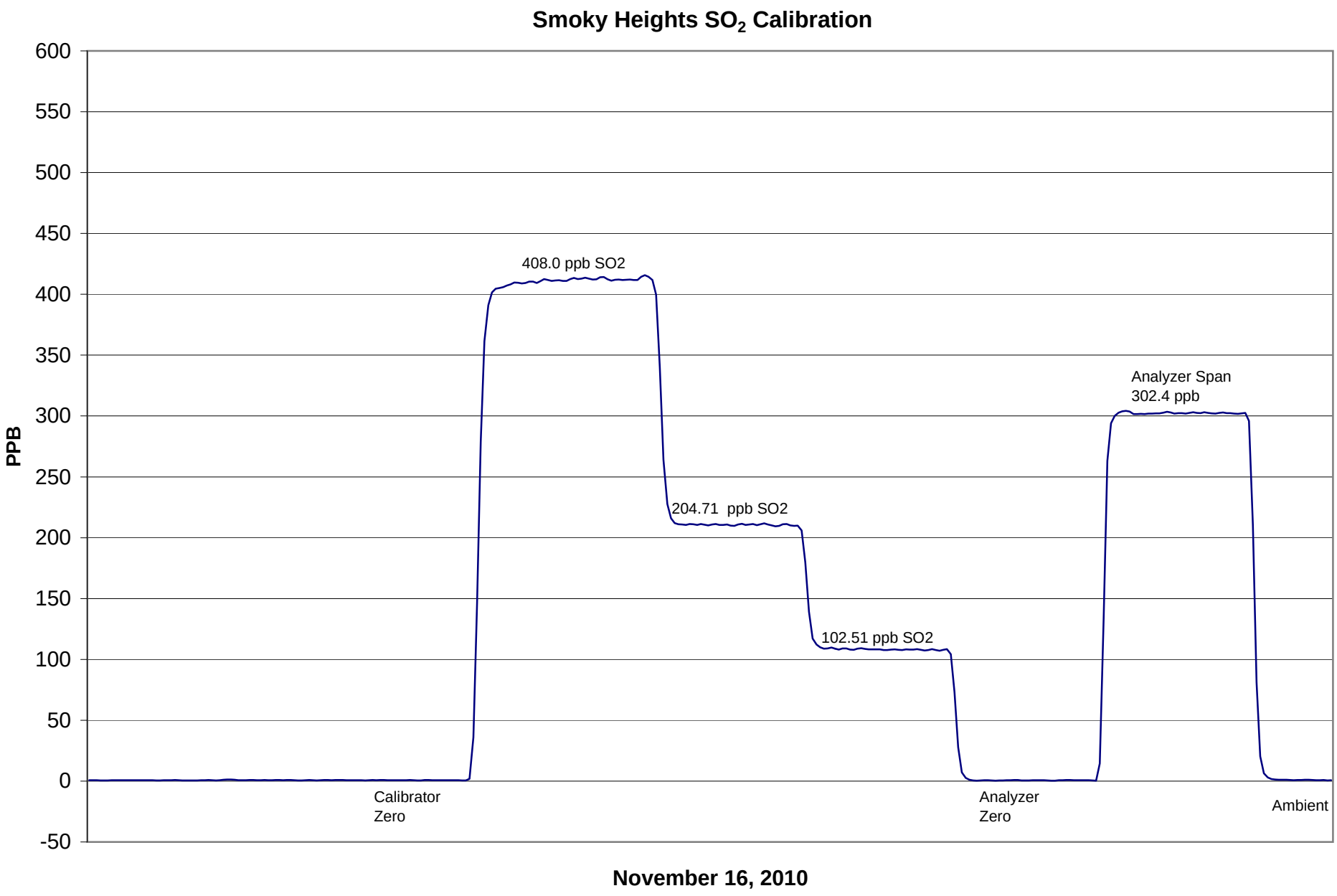
Station Information

Calibration Date	November 16, 2010	Previous Calibration	October 8, 2010
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	9:30	End Time (MST)	12:05
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.8	N/A		
408.0	412.6	0.9889	Correlation Coefficient	0.999868
204.7	210.6	0.9720		
102.5	108.1	0.9486	Slope	0.992854
			Intercept	-2.892386




Smoky Heights SO_2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
408.0 ppb SO2
204.71 ppb SO2
102.51 ppb SO2
Analyzer Span
302.4 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
November 16, 2010

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 15, 2010	Previous Calibration	October 8, 2010
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	11:20	End Time (MST)	13:50
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.15 ppm	Cal Gas Expiry Date	4/2/2009
Correction factor	0.031409	Cal Gas Cylinder #	ALM013295
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	0.997041	Calculated slope	1.017578
Calculated intercept	-0.004699	Calculated intercept	-0.739513

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	15.1	ppb	14.9	ppb
coefficient	1.068		1.068	
Lamp Voltage	764	volts	764	volts
Chamber Temp	43.8	Deg C	43.8	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	506.4	mm Hg	491.5	mm Hg
Sample Flow	0.712	ccm	0.713	ccm
Lamp Intensity	31,998	mv	32,742	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4990	79.77	81.03	80.2	1.0108
4990	39.85	40.80	41.1	0.9919
4990	9.94	10.24	11.0	0.9298
4990	0.0	0.00	0.4	As Found Zero
4990	79.77	81.03	80.2	As Found Span
			Average Correction Factor	0.9775

Calculated value of As Found Response: 79.55 ppm Percent Change of As Found: 1.8%

	before calibration		after calibration	
Auto zero	0.0	ppm	-0.2	ppm
Auto span	44.1	ppm	41.9	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **TRS**

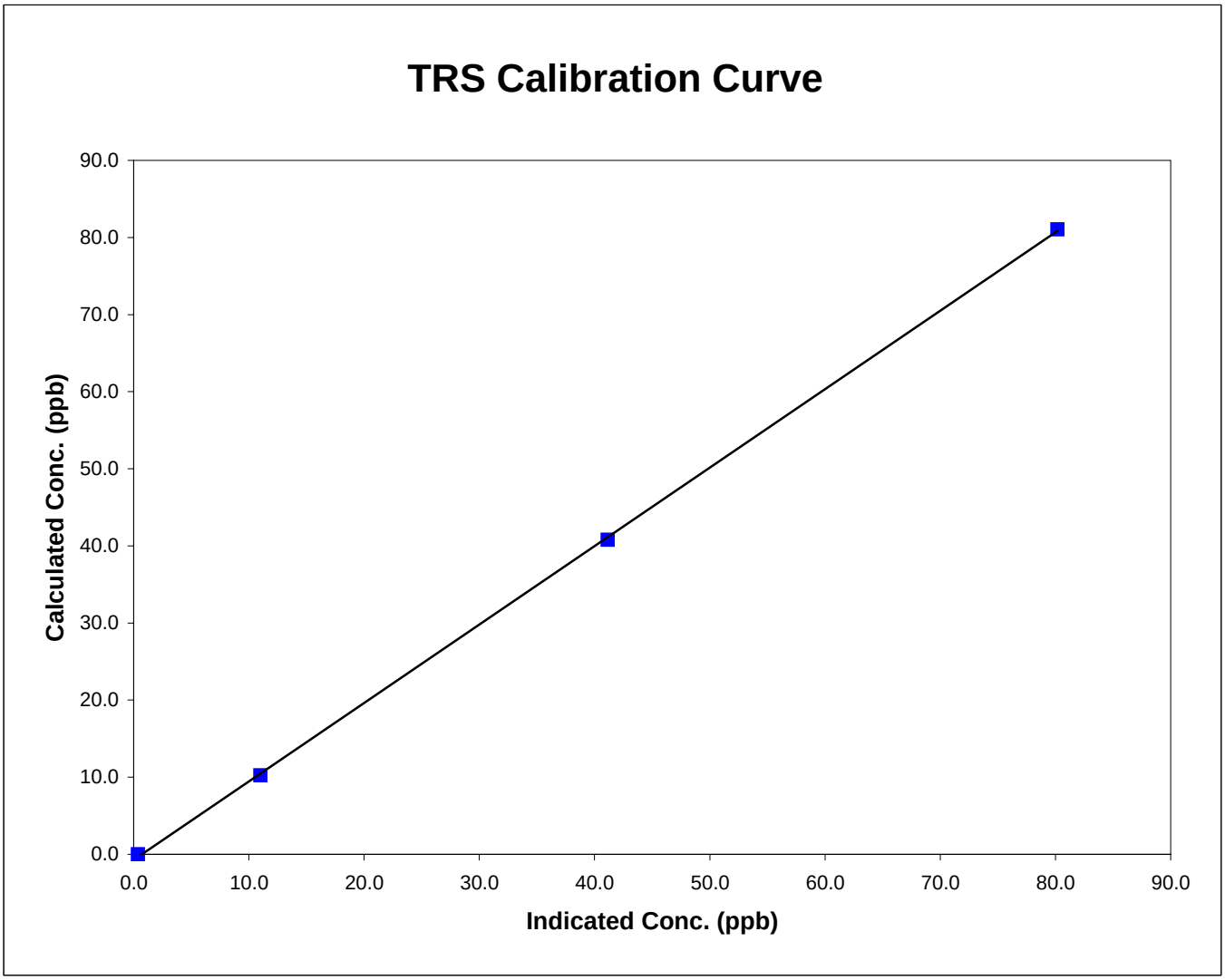
Air Monitoring Network **PASZA**

Station Information

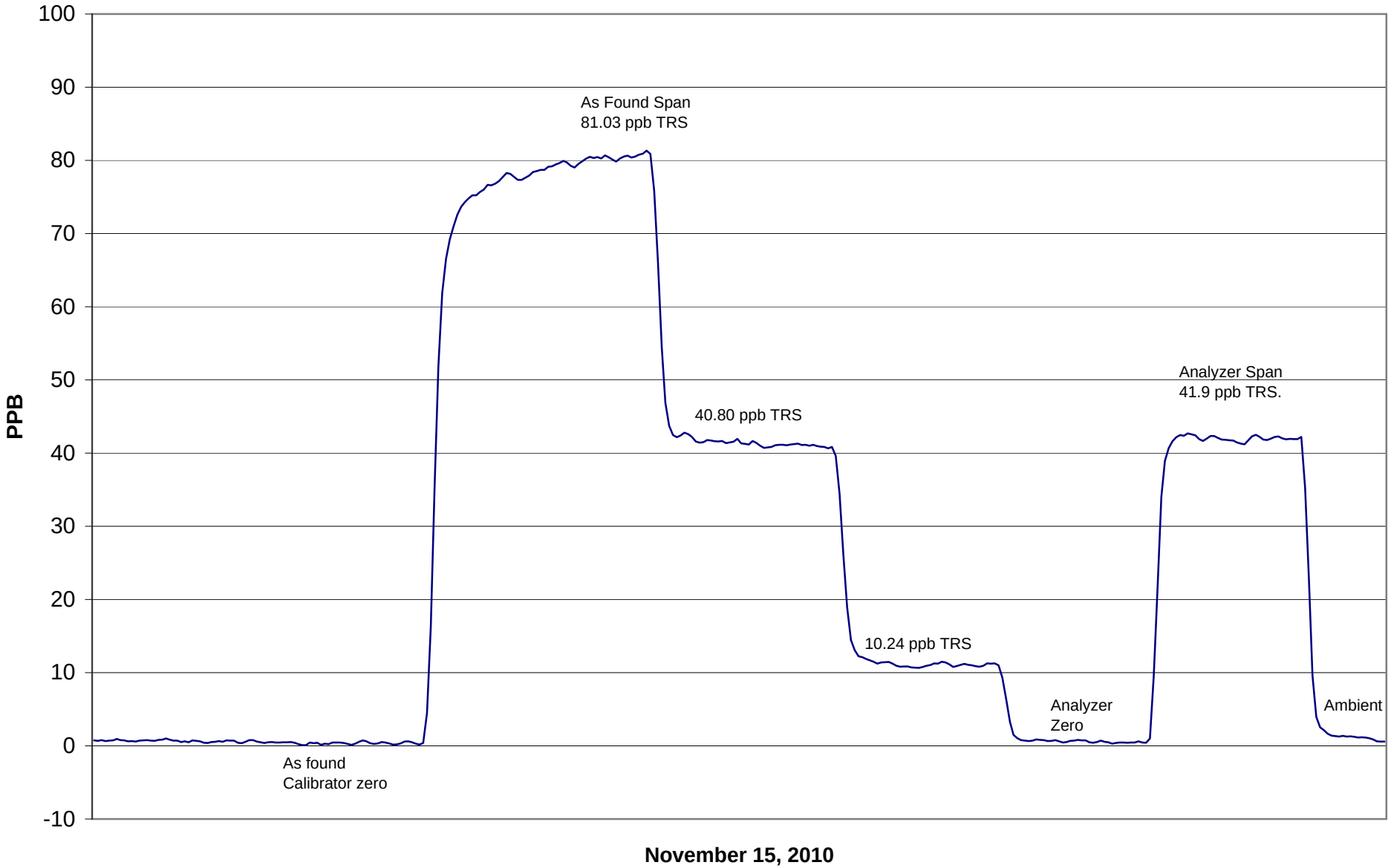
Calibration Date	November 15, 2010	Previous Calibration	October 8, 2010
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	11:20	End Time (MST)	13:50
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
81.0	80.2	1.0108	Correlation Coefficient	0.999921
40.8	41.1	0.9919		
10.2	11.0	0.9298	Slope	1.017578
			Intercept	-0.739513



Smoky Heights TRS Calibration



Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	8:40	End Time (MST)	11:05
Barometric Pressure	0.909 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	10.06 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.009534	Calculated slope	0.993590
Calculated intercept	-0.521130	Calculated intercept	-0.033691
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.56		2.57	
Coefficient	0.924		0.924	
PMT	-812.9	V	-813.3	V
UV Lamp Voltage	1078	V	1070	V
Chamber Temp	45.2	Deg C	45.5	Deg C
Pressure	661.3	mm Hg	657.4	mm Hg
Sample Flow	0.518	LPM	0.515	LPM
Lamp Intesity	80%	%	84%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.1	N/A
4988	39.82	79.7	80.5	0.9901
4988	19.90	40.0	39.6	1.0096
4988	9.93	20.0	20.5	0.9768
4988	0.00	0.0	0.1	As found zero
4988	39.82	79.7	80.5	As found span
			Average Correction Factor	0.9922

Calculated value of As Found Response: 80.575 ppm Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	-0.3	ppb	0.1	ppb
Auto span	59.7	ppb	60.7	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

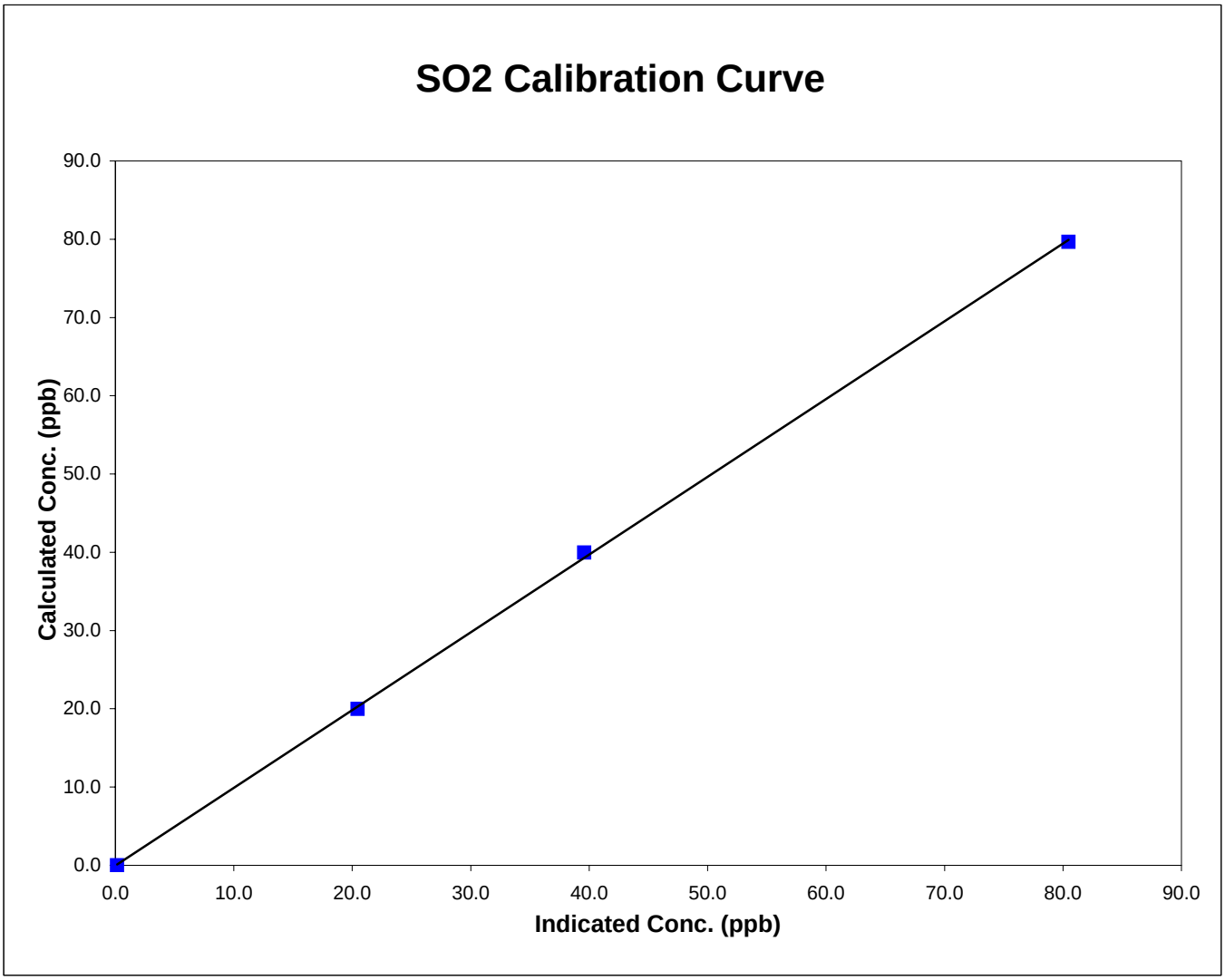
Air Monitoring Network **PASZA**

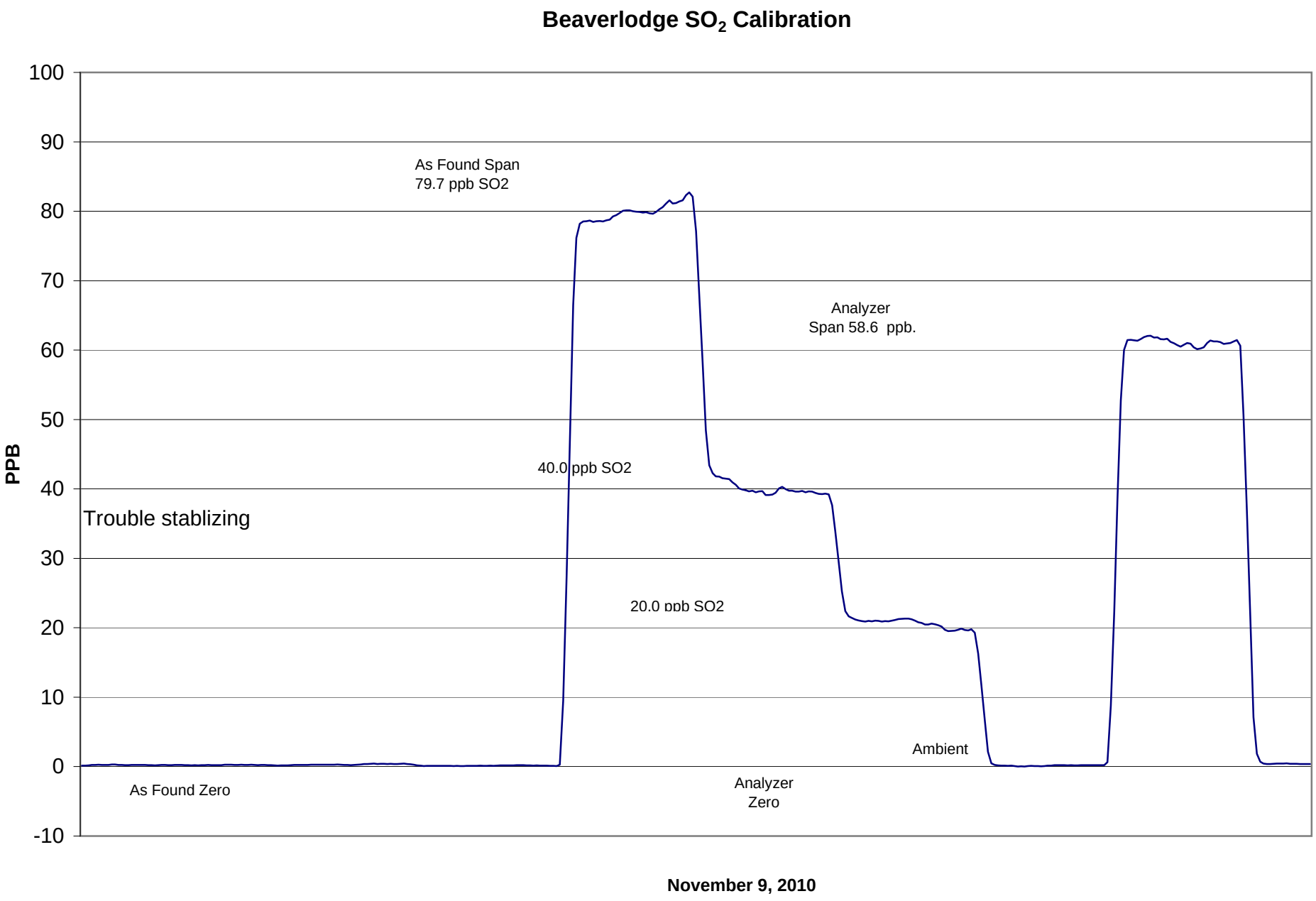
Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:40	End Time (MST)	11:05
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
79.7	80.5	0.9901	Correlation Coefficient	0.999822
40.0	39.6	1.0096		
20.0	20.5	0.9768	Slope	0.993590
			Intercept	-0.033691




Beaverlodge SO_2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
79.7 ppb SO2
Analyzer
Span 58.6 ppb.
40.0 ppb SO2
Trouble stablizing
20.0 ppb SO2
Ambient
As Found Zero
Analyzer
Zero
November 9, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	BeaverLodge

Reason: **Routine** Installation Removal Other:

Start Time (MST)	8:40		End Time (MST)	12:50	
Barometric Pressure	0.909	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	50.1	ppm	Cal Gas Expiry Date		
NOx Cal Gas Conc	50.2	ppm	Cal Gas Serial #	CC-114395	

DACS Information

DACS make: AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	0.997317	0.980324	0.975697
	Data Offset	-0.129866	-3.064274	-0.203445
After	Data Slope	0.997293	0.977523	0.974955
	Data Offset	-0.302458	-1.856197	-0.829412
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model: TEI 42i Analyzer serial #: 906535068

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.7	mV	2.7	mV
NOx bkgnd	3.0	mV	3.0	mV
NO coefficient	1.605		1.605	
NOx coefficient	0.992		0.992	
NO2 conv temp	325.3	Deg C	325.3	Deg C
PMT Temp	-3.1	Deg C	-3.1	Deg C
PMT Volt	-676.4	mV	-676.4	mV
R Cell Press	184.9	in Hg	184.3	in Hg
Sample Flow	0.683	ccm	0.674	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 9, 2010 Station Location: BeaverLodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	N/A	N/A
1	4988	39.82	397.6	396.8	0.8	407.5	407.4	-0.2	0.9756	0.9739
2	4988	19.90	199.5	199.1	0.4	207.2	205.2	1.1	0.9629	0.9700
3	4988	9.93	99.7	99.5	0.2	105.8	104.2	1.3	0.9426	0.9550
AFZ	4988	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0000	0.0000
AFS	4988	39.84	397.8	397.0	0.8	407.5	407.4	-0.2	0.9761	0.9744
							Average Correction Factor		0.9604	0.9663

As Found Concentrations: NO_X= 404.5 NO= 407.4 As Found Percent Change NO_X= 1.7% NO= 2.6%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.2	-0.2	0.0	-0.1	-0.2	-0.1	N/A	N/A	N/A	N/A
NO point	408.4	408.4	0.0	408.3	408.4	-0.5	1.0001	1.0000	N/A	N/A
300	408.4	105.3	303.1	409.5	105.3	303.8	0.9971	1.0000	0.9977	100.2%
200	408.4	190.1	218.2	410.1	190.1	219.4	0.9958	1.0000	0.9944	100.6%
100	408.4	286.8	121.6	409.5	286.8	122.7	0.9972	1.0000	0.9911	100.9%
					Average Correction Factor		0.9967	1.0000	0.9944	100.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	-0.2	-0.2	-0.1	ppb
Auto span	202.3	192.5	1.9	ppb	238.0	235.5	1.6	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

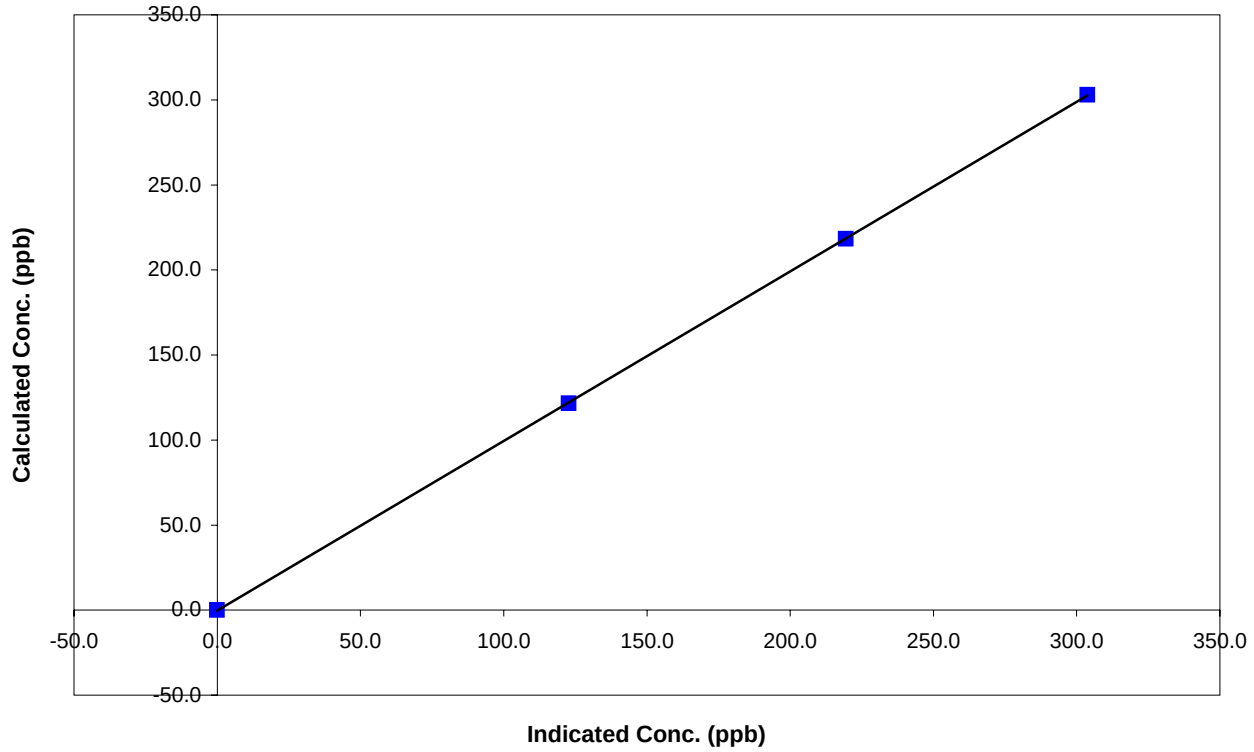
Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
303.1	303.8	0.9977	Correlation Coefficient	0.999988
218.2	219.4	0.9944		
121.6	122.7	0.9911	Slope	0.997293
			Intercept	-0.302458

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

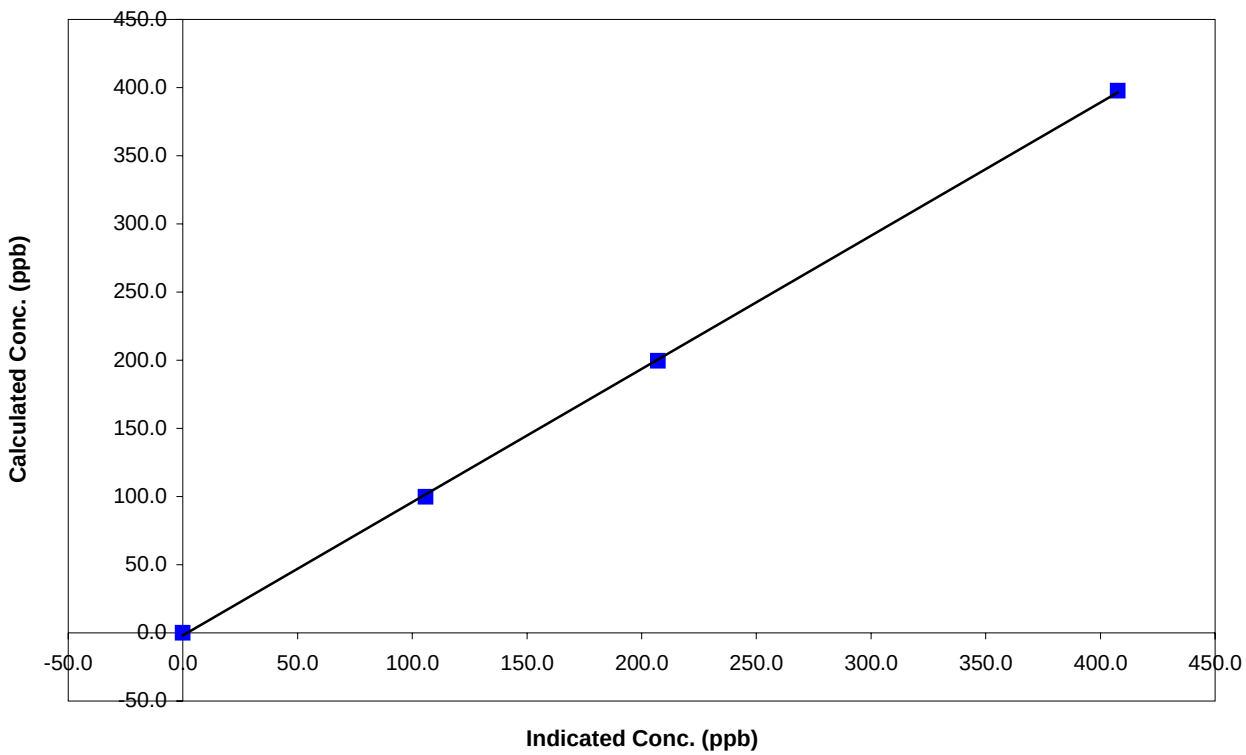
Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
397.6	407.5	0.9756	Correlation Coefficient	0.999889
199.5	207.2	0.9629		
99.7	105.8	0.9426	Slope	0.977523
			Intercept	-1.856197

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

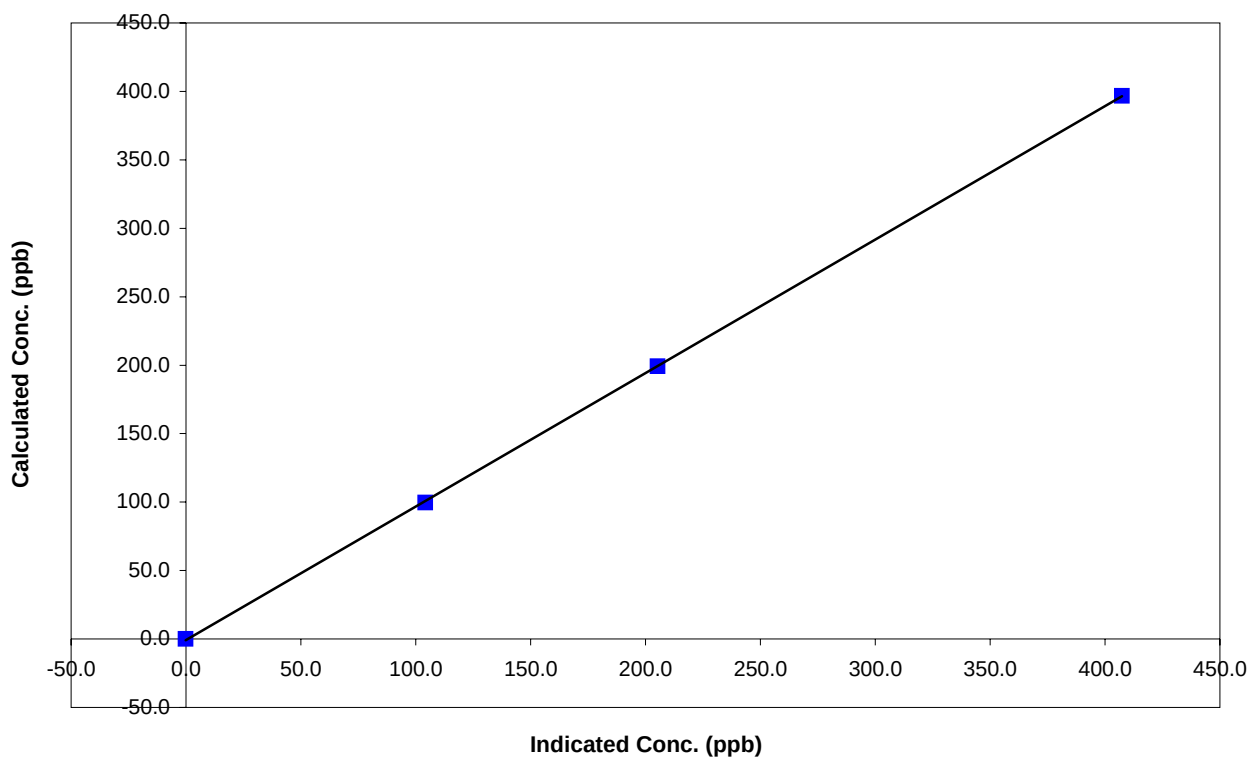
Station Information

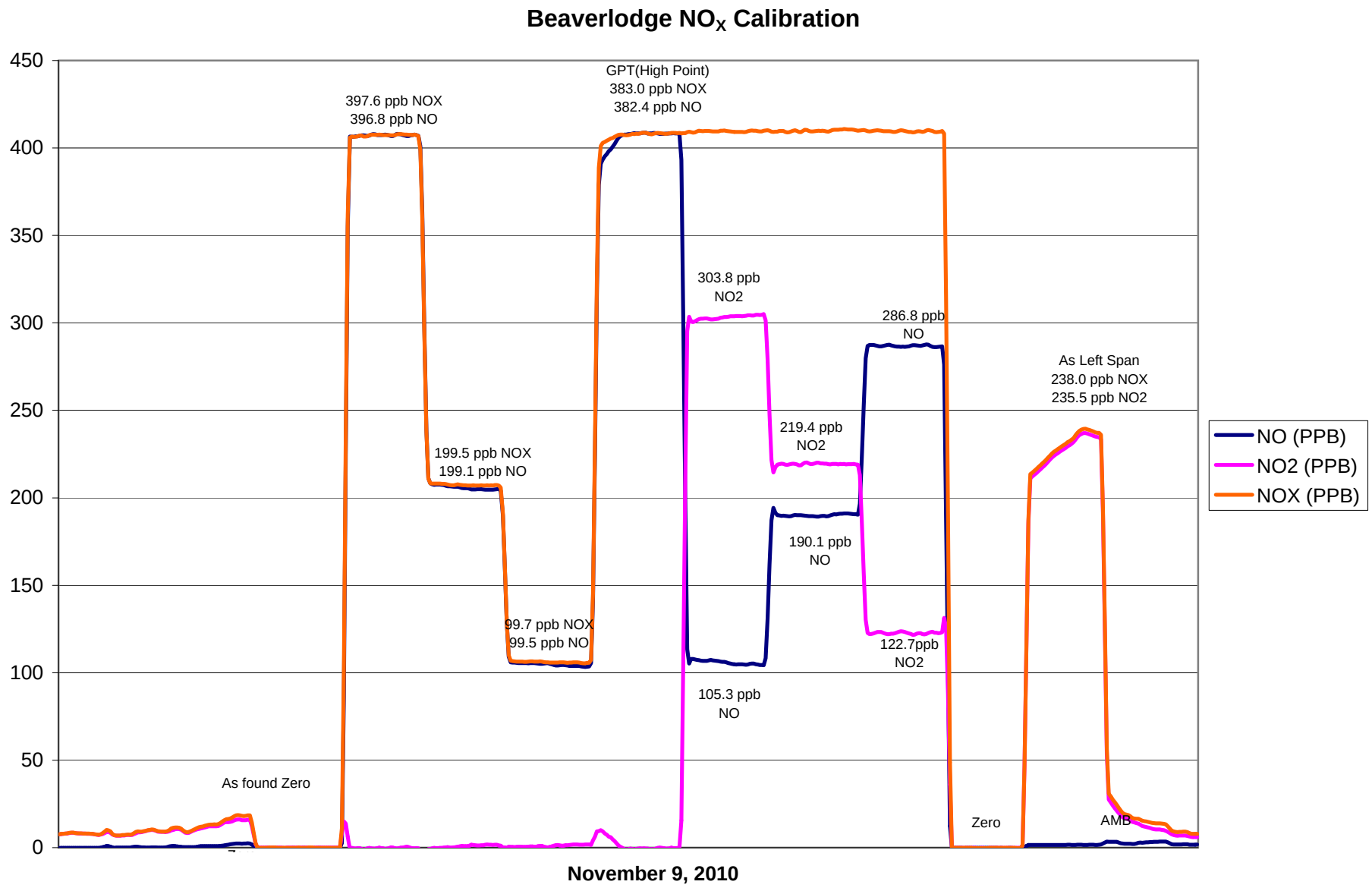
Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
396.8	407.4	0.9739	Correlation Coefficient	0.999967
199.1	205.2	0.9700		
99.5	104.2	0.9550	Slope	0.974955
			Intercept	-0.829412

NO Calibration Curve




Beaverlodge NOX Calibration
450
400
350
300
250
200
150
100
50
0
397.6 ppb NOX
396.8 ppb NO
GPT(High Point)
383.0 ppb NOX
382.4 ppb NO
303.8 ppb
NO2
286.8 ppb
NO
As Left Span
238.0 ppb NOX
235.5 ppb NO2
219.4 ppb
NO2
199.5 ppb NOX
199.1 ppb NO
190.1 ppb
NO
99.7 ppb NOX
99.5 ppb NO
122.7ppb
NO2
105.3 ppb
NO
As found Zero
Zero
AMB
NO (PPB)
NO2 (PPB)
NOX (PPB)
November 9, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 10, 2010	Previous Calibration	November 9, 2010
Station Number	4	Station Location	BeaverLodge

Reason: **Routine** Installation Removal Other:

Start Time (MST)	8:40		End Time (MST)		
Barometric Pressure	0.909	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	50.1	ppm	Cal Gas Expiry Date		
NOx Cal Gas Conc	50.2	ppm	Cal Gas Serial #	CC-114395	

DACS Information

DACS make: AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	0.997293	0.977523	0.974955
	Data Offset	-0.302458	-1.856197	-0.829412
After	Data Slope	0.997293	0.977523	0.974955
	Data Offset	-0.302458	-1.856197	-0.829412
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model: TEI 42i Analyzer serial #: 906535068

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.7	mV	2.6	mV
NOx bkgnd	3.0	mV	2.9	mV
NO coefficient	1.605		1.551	
NOx coefficient	0.992		0.992	
NO2 conv temp	324.5	Deg C	316.6	Deg C
PMT Temp	-2.7	Deg C	-2.8	Deg C
PMT Volt	-676.4	mV	-675.6	mV
R Cell Press	185.2	in Hg	185.5	in Hg
Sample Flow	0.691	ccm	0.674	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 10, 2010 Station Location: BeaverLodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	N/A	N/A
1	4988	39.82	397.6	396.8	0.8	407.5	407.4	-0.2	0.9756	0.9739
2	4988	19.90	199.5	199.1	0.4	207.2	205.2	1.1	0.9629	0.9700
3	4988	9.93	99.7	99.5	0.2	105.8	104.2	1.3	0.9426	0.9550
AFZ	4988	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0000	0.0000
AFS	4988	39.84	397.8	397.0	0.8	407.5	407.4	-0.2	0.9761	0.9744
							Average Correction Factor		0.9604	0.9663

As Found Concentrations: NO_X= 405.7 NO= 406.8 As Found Percent Change NO_X= 2.0% NO= 2.5%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.2	-0.2	0.0	-0.1	-0.2	-0.1	N/A	N/A	N/A	N/A
NO point	408.4	408.4	0.0	408.3	408.4	-0.5	1.0001	1.0000	N/A	N/A
300	408.4	105.3	303.1	409.5	105.3	303.8	0.9971	1.0000	0.9977	100.2%
200	408.4	190.1	218.2	410.1	190.1	219.4	0.9958	1.0000	0.9944	100.6%
100	408.4	286.8	121.6	409.5	286.8	122.7	0.9972	1.0000	0.9911	100.9%
					Average Correction Factor		0.9967	1.0000	0.9944	100.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	-0.2	-0.2	-0.1	ppb
Auto span	202.3	192.5	1.9	ppb	238.0	235.5	1.6	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

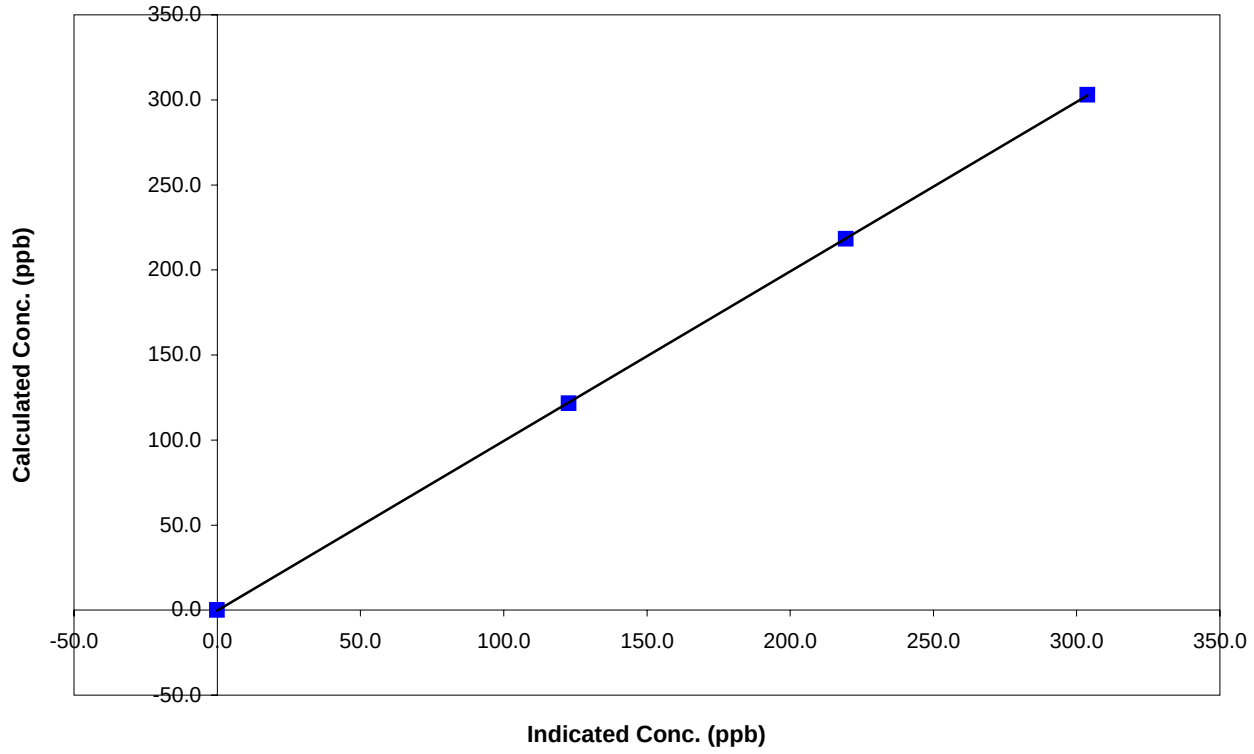
Station Information

Calibration Date	November 10, 2010	Previous Calibration	November 9, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	0:00
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
303.1	303.8	0.9977	Correlation Coefficient	0.999988
218.2	219.4	0.9944		
121.6	122.7	0.9911	Slope	0.997293
			Intercept	-0.302458

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

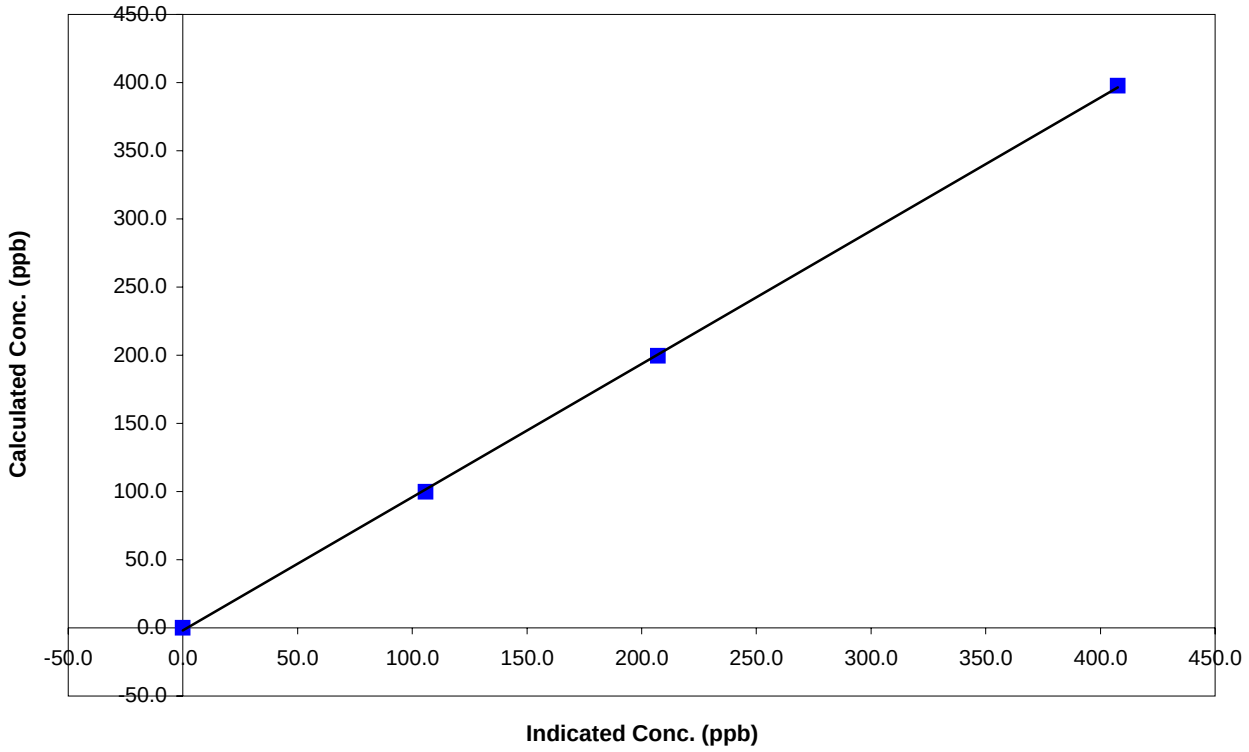
Station Information

Calibration Date	November 10, 2010	Previous Calibration	November 9, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	0:00
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
397.6	407.5	0.9756	Correlation Coefficient	0.999889
199.5	207.2	0.9629		
99.7	105.8	0.9426	Slope	0.977523
			Intercept	-1.856197

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

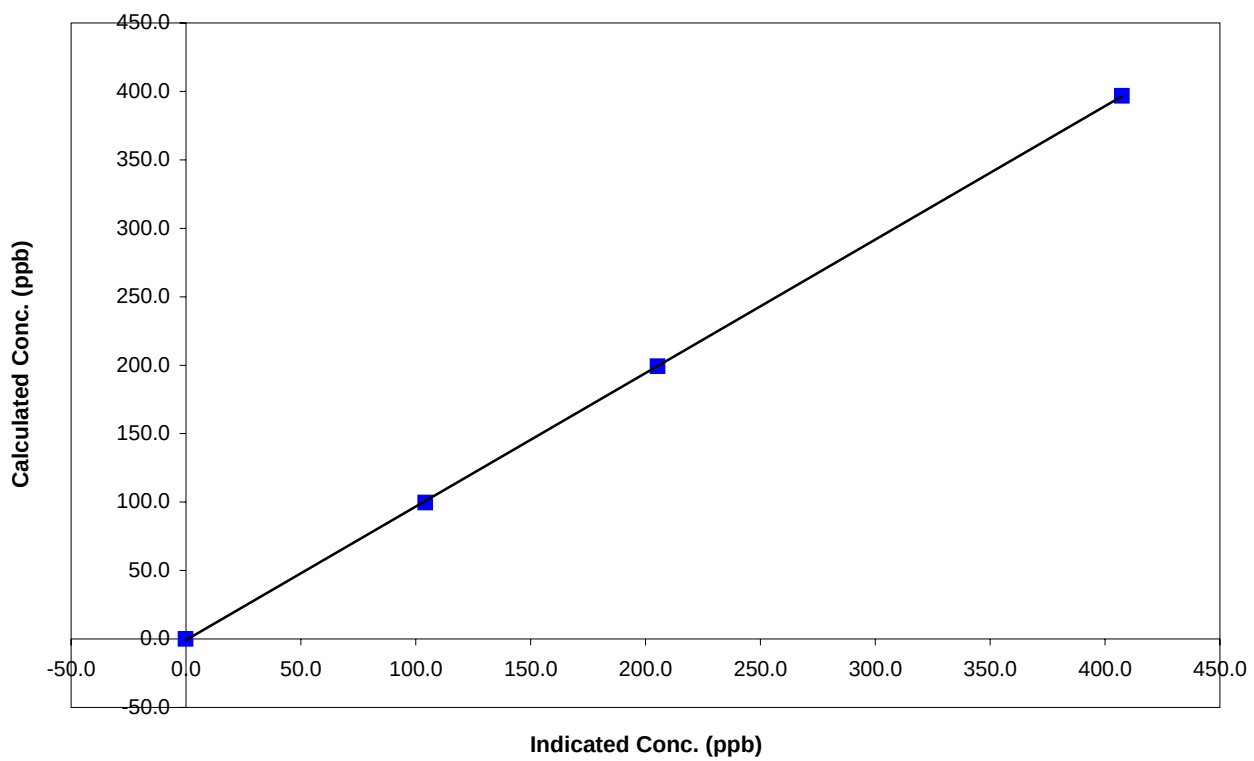
Station Information

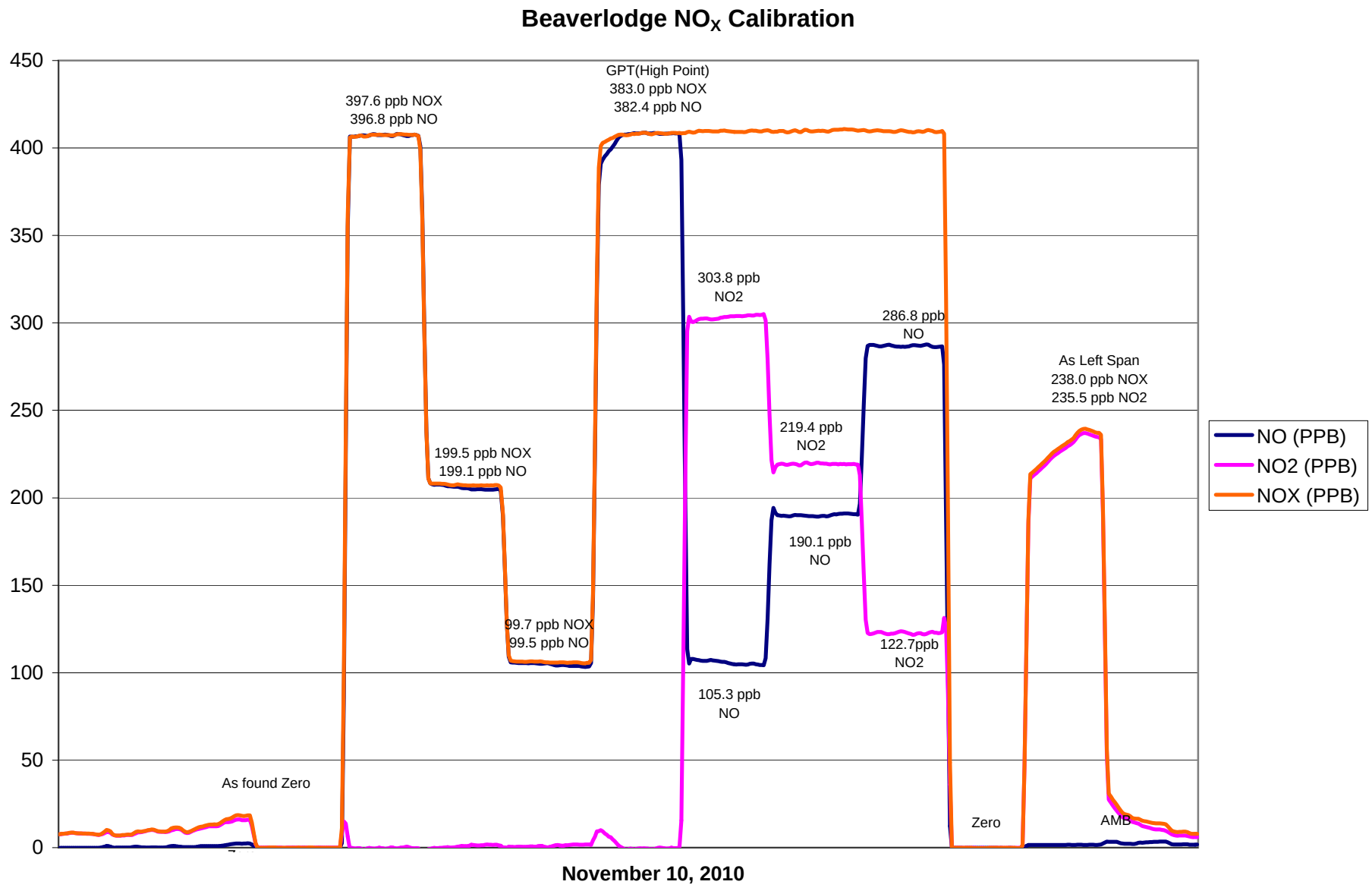
Calibration Date	November 10, 2010	Previous Calibration	November 9, 2010
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:40	End Time (MST)	0:00
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
396.8	407.4	0.9739	Correlation Coefficient	0.999967
199.1	205.2	0.9700		
99.5	104.2	0.9550	Slope	0.974955
			Intercept	-0.829412

NO Calibration Curve




Beaverlodge NOX Calibration
450
400
350
300
250
200
150
100
50
0
397.6 ppb NOX
396.8 ppb NO
GPT(High Point)
383.0 ppb NOX
382.4 ppb NO
303.8 ppb
NO2
286.8 ppb
NO
As Left Span
238.0 ppb NOX
235.5 ppb NO2
219.4 ppb
NO2
199.5 ppb NOX
199.1 ppb NO
190.1 ppb
NO
99.7 ppb NOX
99.5 ppb NO
122.7ppb
NO2
105.3 ppb
NO
As found Zero
Zero
AMB
NO (PPB)
NO2 (PPB)
NOX (PPB)
November 10, 2010

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:30	End Time (MST)	13:43
Barometric Pressure	0.909 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.033844	Calculated slope	1.005885
Calculated intercept	-0.201956	Calculated intercept	2.171812
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.40	ppb	-1.40	ppb
slope	1.008		1.008	
Lamp temp	56.5	mV	56.5	mV
Lamp Intensity A/B	65997/68224	mV	66234/66893	mV
Pressure	680.1	mm Hg	662.8	mm Hg
Flow A	0.708	ccm	0.691	ccm
Flow B	0.655	ccm	0.641	ccm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.0	0.5	N/A
4990	0.00	303.1	303.6	0.9984
4990	0.00	218.6	209.6	1.0431
4990	0.00	121.6	117.3	1.0368
4990	0.00	0.0	0.5	As found zero
4990	0.00	303.1	303.6	As found span
			Average Correction Factor	1.0261

Calculated value of As Found Response: 313.2 ppm Percent Change of As Found: 3.3%

	before calibration		after calibration	
Auto zero	0.1	ppb	2.6	ppb
Auto span	114.3	ppb	122.9	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **O3**

Air Monitoring Network **PASZA**

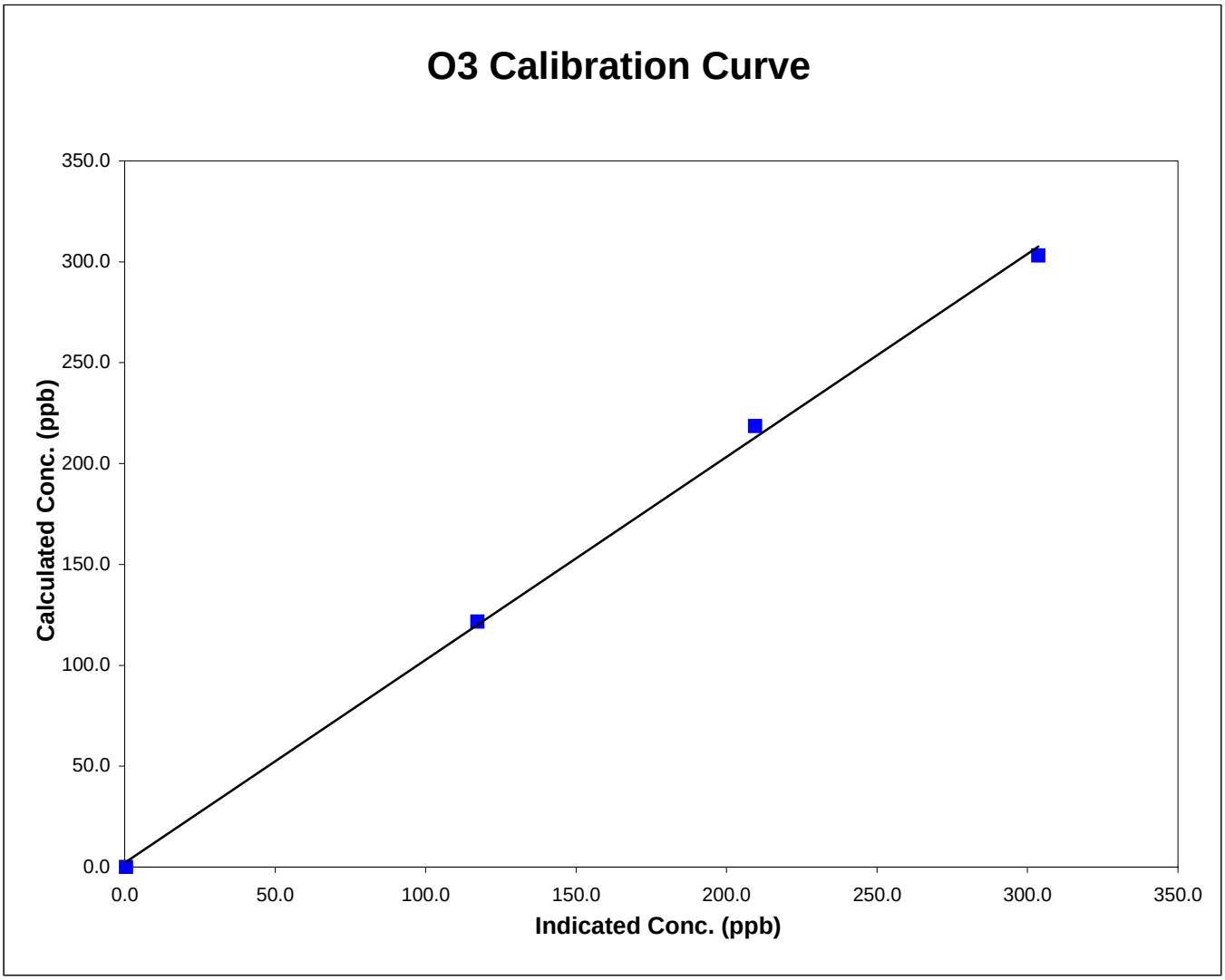
FOCUS AIR QUALITY MONITORING

Station Information

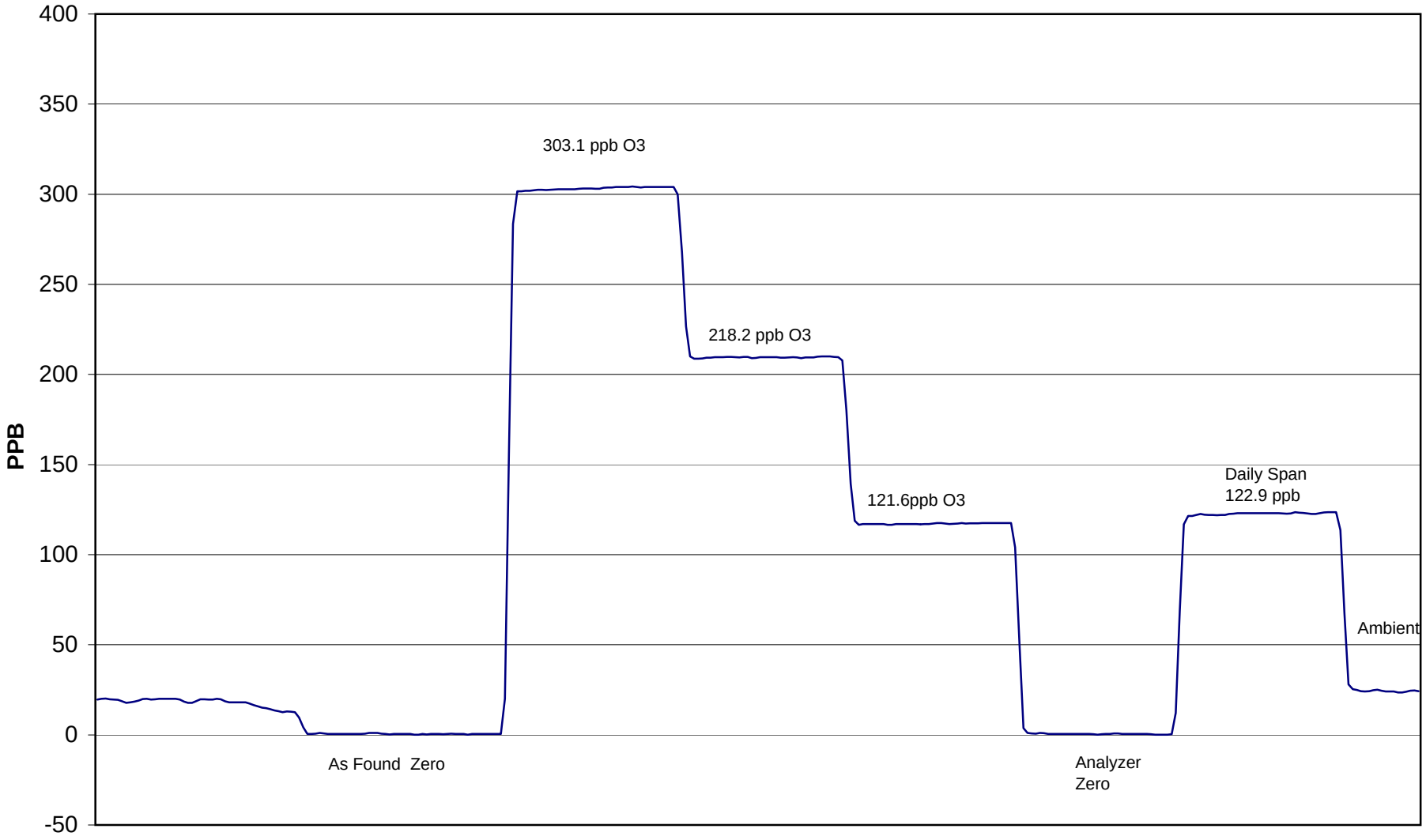
Calibration Date	November 9, 2010	Previous Calibration	October 7, 2010
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	11:30	End Time (MST)	13:43
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	NA		
303.1	303.6	0.9984	Correlation Coefficient	0.998812
218.6	209.6	1.0431		
121.6	117.3	1.0368	Slope	1.005885
			Intercept	2.171812



Beaverlodge O_3 Calibration



November 9, 2010

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:30	End Time (MST)	13:19
Barometric Pressure	31.70 inches Hg	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	51.5 ppm	Cal Gas Expiry Date	4/6/2012
Gas Cert Reference	SGAL3245		
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0 - 10 volt	DACS channel #	9
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.010659	Calculated slope	0.997661
Calculated intercept	-0.092093	Calculated intercept	0.742461
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	9.4		9.8	
Coefficient	0.980		1.013	
UV Lamp Voltage	794	V	793	V
Chamber Temp	44.4	C	44.4	C
Perm Gas Temp	45	C	45	C
Pressure	668.3	mm Hg	665.9	mm Hg
Sample Flow	0.485	LPM	0.483	LPM
Lamp Intesity	47851	Hz	47613	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4991	0.00	0.0	-0.3	N/A
4991	39.84	407.8	408.6	0.9981
4991	19.90	204.5	202.9	1.0080
4991	9.93	102.3	102.1	1.0013
4991	0.00	0.0	-0.3	As found zero
4991	39.84	407.8	393.9	As found span
			Average Correction Factor	1.0024

Calculated value of As Found Response: 398.380 ppm Percent Change of As Found: 2.3%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	256.9	ppm	271.4	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

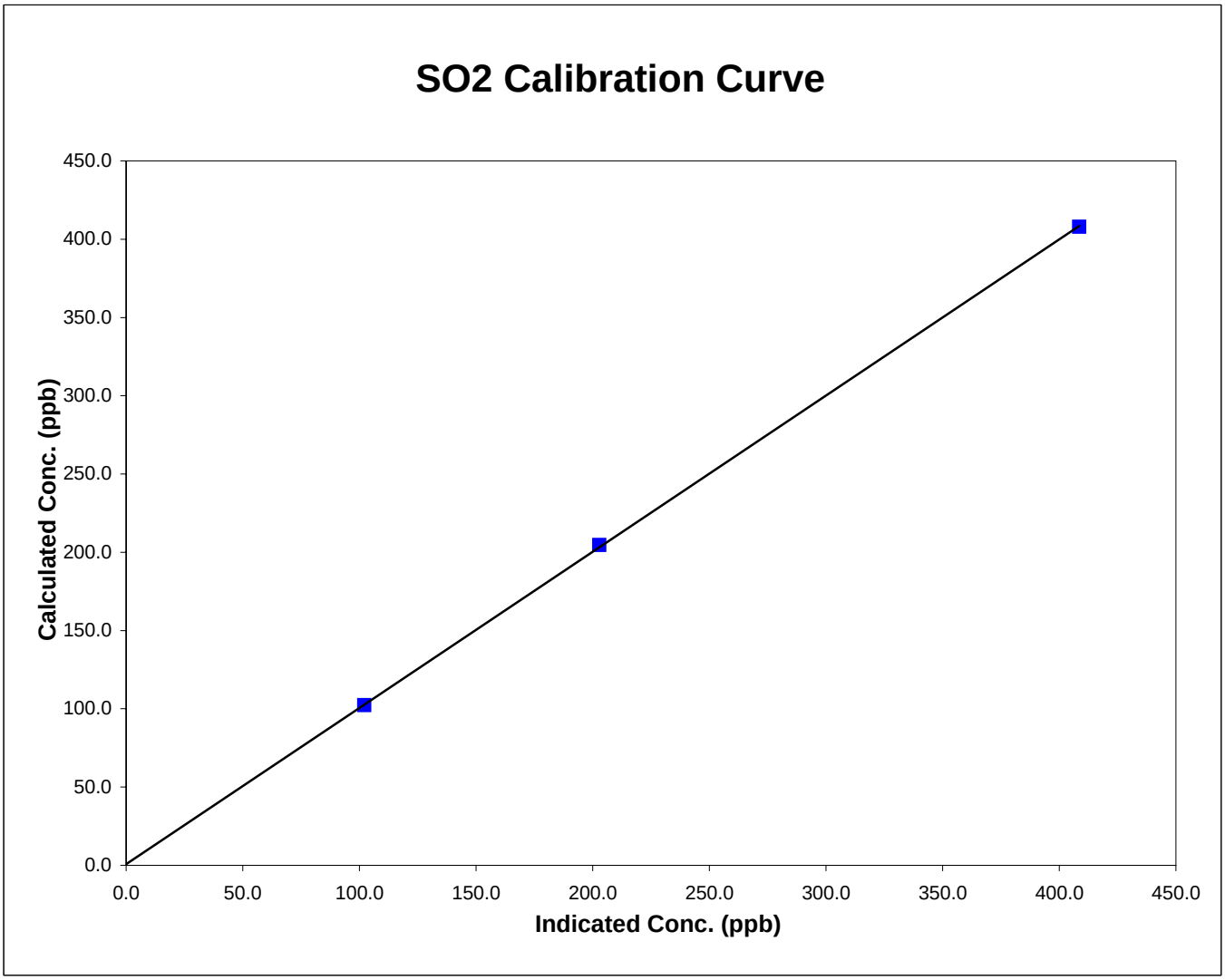
Air Monitoring Network **PASZA**

Station Information

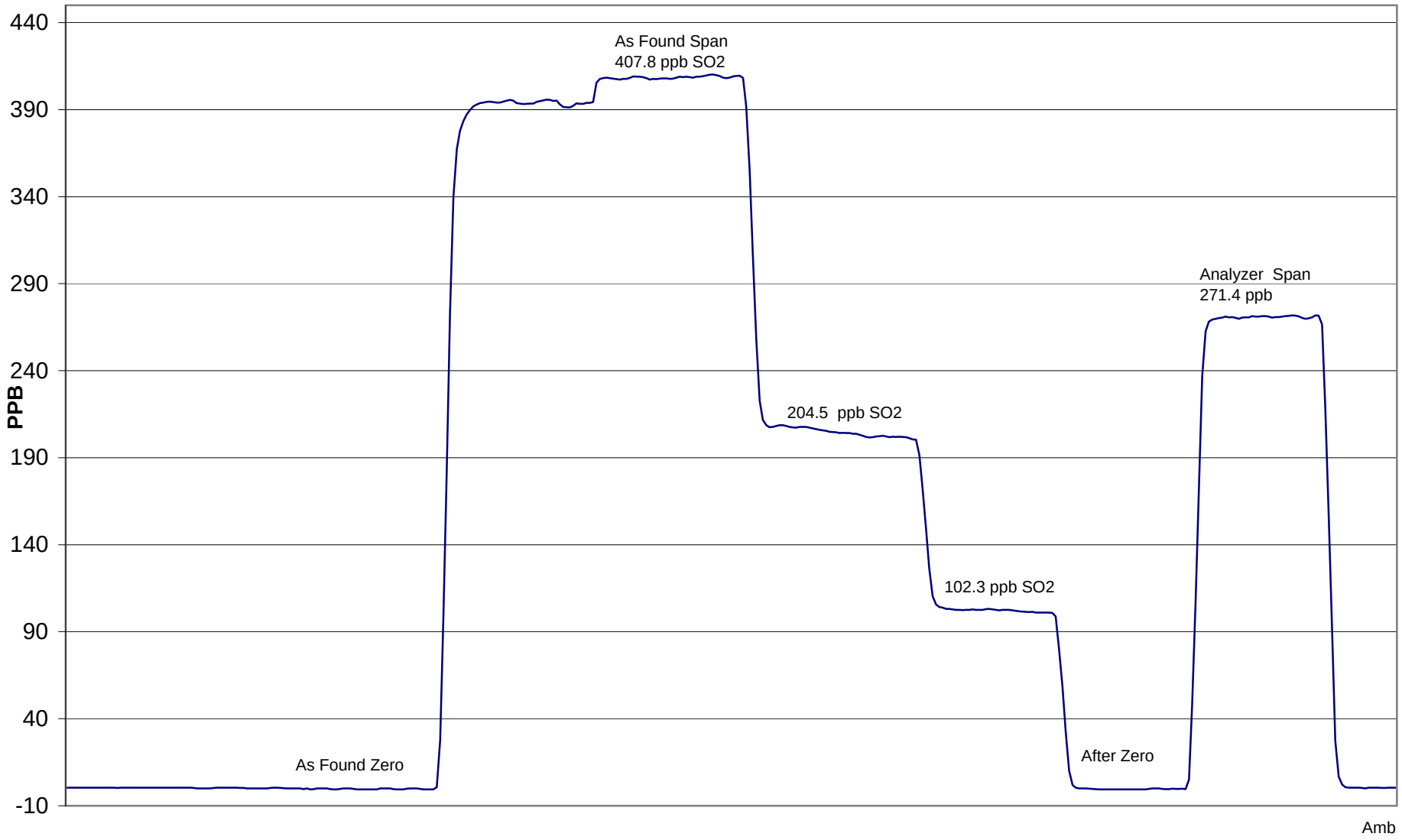
Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	10:30	End Time (MST)	13:19
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
407.8	408.6	0.9981	Correlation Coefficient	0.999973
204.5	202.9	1.0080		
102.3	102.1	1.0013	Slope	0.997661
			Intercept	0.742461



Bonanza SO_2 Calibration



November 4, 2010

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover-Bonanza
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	14:45	End Time (MST)	17:20
Barometric Pressure	27.5 inches Hg	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.15 ppm	Cal Gas Expiry Date	11/15/2005
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0 - 5 volt	DACS channel #	8
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.981824	Calculated slope	0.978199
Calculated intercept	1.189224	Calculated intercept	0.664763
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	11.4	ppb	11.4	ppb
Coefficient	1.460		1.460	
Lamp Voltage	788	V	788	V
Chamber Temp	43.9	C	44.0	C
Perm gas Temp	45.00	C	44.99	C
Pressure	658.3	mmHg	648.8	mmHg
Sample Flow	.438	ccm	.434	ccm
Lamp Intensity	39244.0	Hz	39249.0	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.0	-0.8	N/A
4991	79.74	81.0	82.1	0.9869
4991	39.80	40.7	41.0	0.9930
4991	9.93	10.2	9.9	1.0304
4991	0.00	0.0	-0.8	As found zero
4991	79.74	81.0	82.1	As found span
			Average Correction Factor	1.0034

Calculated value of As Found Response: 82.58 ppm Percent Change of As Found: -2.0%

	before calibration		after calibration	
Auto zero	-0.6	ppm	-0.1	ppm
Auto span	64.8	ppm	67.0	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **TRS**

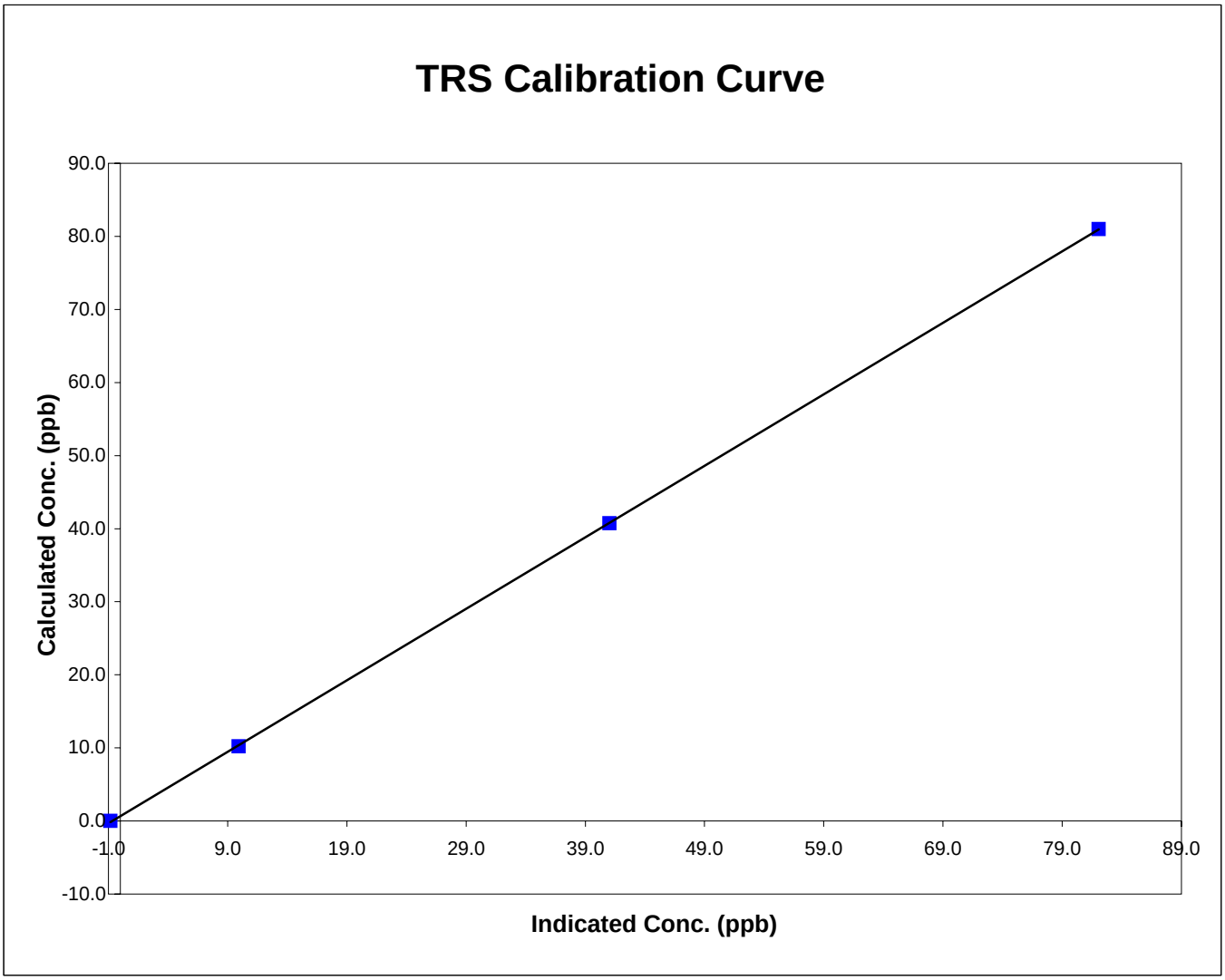
Air Monitoring Network **PASZA**

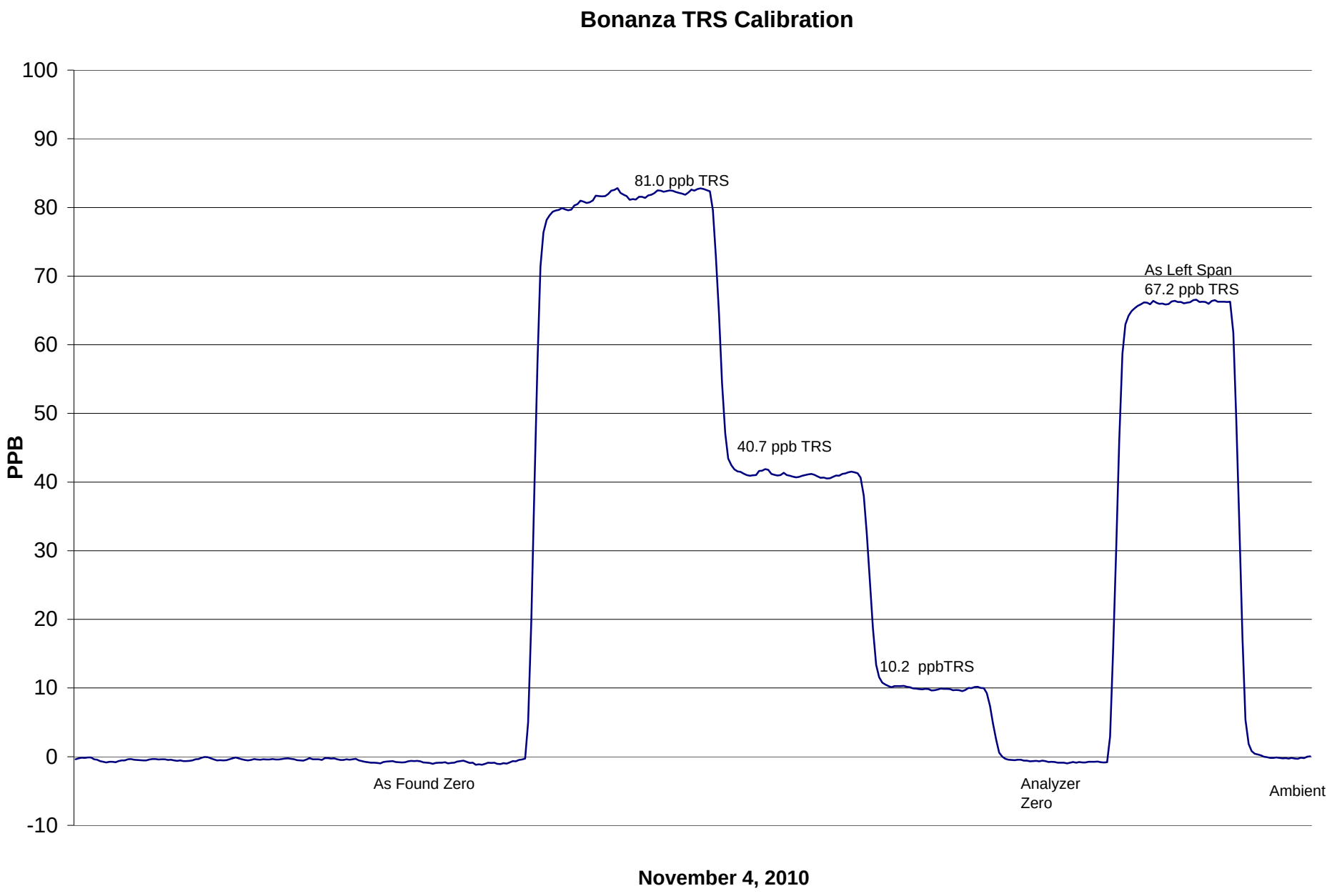
Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	14:45	End Time (MST)	17:20
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.8	N/A		
81.0	82.1	0.9869	Correlation Coefficient	0.999987
40.7	41.0	0.9930		
10.2	9.9	1.0304	Slope	0.978199
			Intercept	0.664763




Bonanza TRS Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
81.0 ppb TRS
40.7 ppb TRS
10.2 ppbTRS
As Left Span
67.2 ppb TRS
As Found Zero
Analyzer
Zero
Ambient
November 4, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza

Reason: Routine Installation Removal Other: Maintenance

Start Time (MST)	11:00		End Time (MST)	13:40	
Barometric Pressure	0.927	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	50.8	ppm	Cal Gas Expiry Date	April 6, 2012	
NOx Cal Gas Conc	50.8	ppm	Cal Gas Serial #	SGAL 3245	

DACS Information

DACS make	Focus AP1000	DACS serial No.	52662

Parameter		NO2	NOx	NO
Before	Data Slope	0.991632	1.001518	1.007004
	Data Offset	1.274525	-1.849806	-2.673151
After	Data Slope	0.993603	1.000846	1.006704
	Data Offset	0.384701	-2.405754	-2.707827
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.5	mV	5.8	mV
NOx bkgnd	5.9	mV	6.2	mV
NO coefficient	1.053		1.098	
NOx coefficient	0.998		0.997	
NO2 conv temp	323.4	Deg C	326.0	Deg C
PMT Temp	-3.2	Deg C	-2.8	Deg C
PMT Volt	-829.9	mV	-829.5	mV
R Cell Press	176.3	in Hg	180.2	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 4, 2010 Station Location: Rover - Bonanza

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	0.2	0.4	-0.7	N/A	N/A
1	5000	40.00	403.2	403.2	0.0	404.0	402.1	-1.0	0.9978	1.0028
2	5000	20.00	202.4	202.4	0.0	205.8	204.7	-0.6	0.9833	0.9887
3	5000	10.00	101.4	101.4	0.0	105.9	105.8	-0.6	0.9573	0.9584
AFZ	5000	0.00	0.0	0.0	0.0	0.2	0.4	-0.7	0.0000	0.0000
AFS	5000	40.00	403.2	403.2	0.0	384.0	381.6	-0.4	1.0499	1.0565
							Average Correction Factor		0.9795	0.9833

As Found Concentrations: NO_X= 382.0 NO= 378.5 As Found Percent Change NO_X= -5.3% NO= -6.1%

GPT Calibration Data

Dilution Flow 4988 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.4	0.4	0.0	0.2	0.4	-0.7	N/A	N/A	N/A	N/A
NO point	400.6	400.6	0.0	403.1	400.6	-0.4	0.9937	1.0000	N/A	N/A
300	400.6	106.6	293.9	403.7	106.6	295.2	0.9923	1.0000	0.9956	100.4%
200	400.6	199.4	201.2	403.8	199.4	202.1	0.9919	1.0000	0.9953	100.5%
100	400.6	294.0	106.5	404.1	294.0	107.4	0.9913	1.0000	0.9925	100.8%
					Average Correction Factor		0.9918	1.0000	0.9945	100.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.4	-0.9	0.7	ppb	-0.2	-1.1	0.5	ppb
Auto span	275.6	274.9	2.9	ppb	317.6	313.0	3.0	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

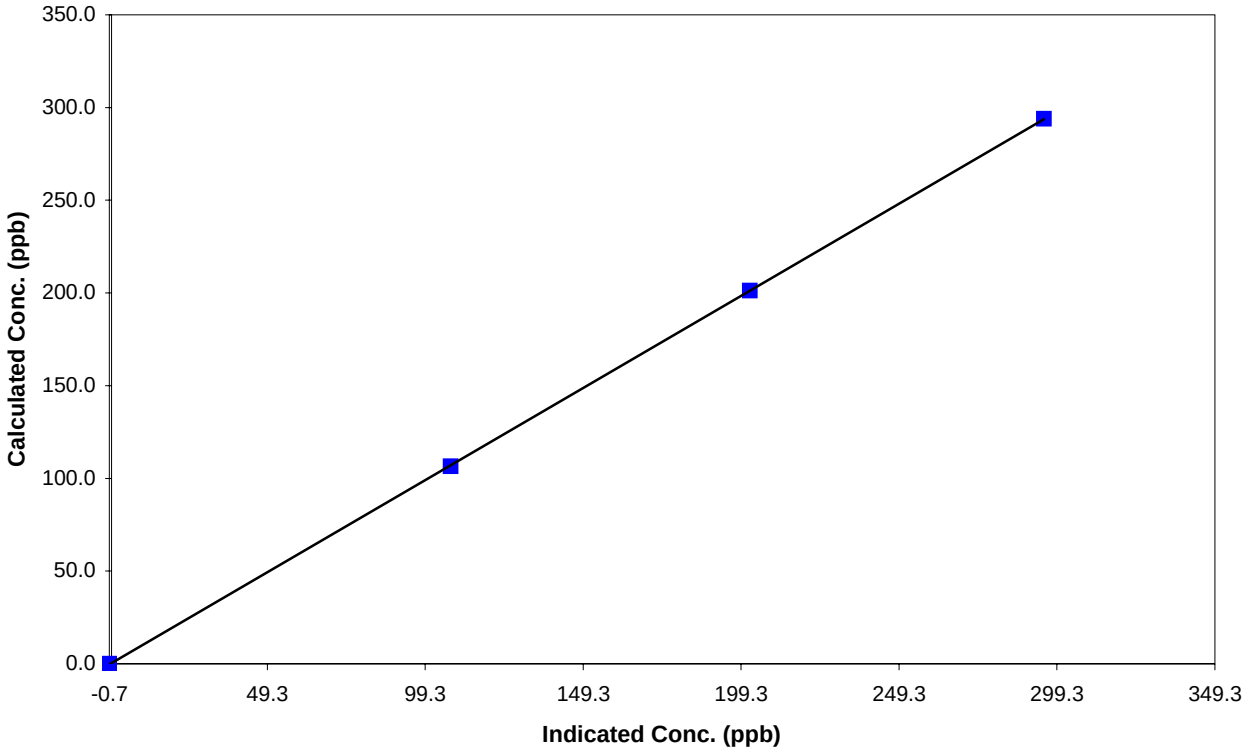
Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.7	N/A		
293.9	295.2	0.9956	Correlation Coefficient	0.999991
201.2	202.1	0.9953		
106.5	107.4	0.9925	Slope	0.993603
			Intercept	0.384701

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

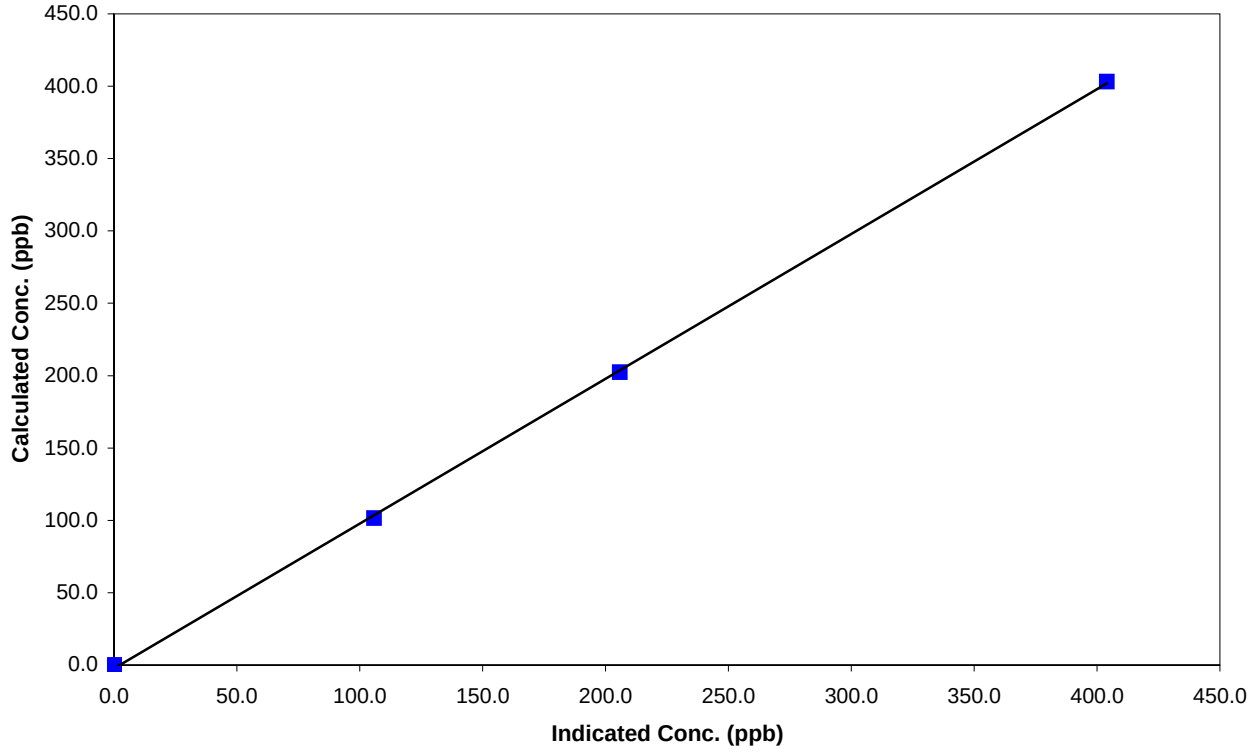
Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
403.2	404.0	0.9978	Correlation Coefficient	0.999857
202.4	205.8	0.9833		
101.4	105.9	0.9573	Slope	1.000846
			Intercept	-2.405754

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

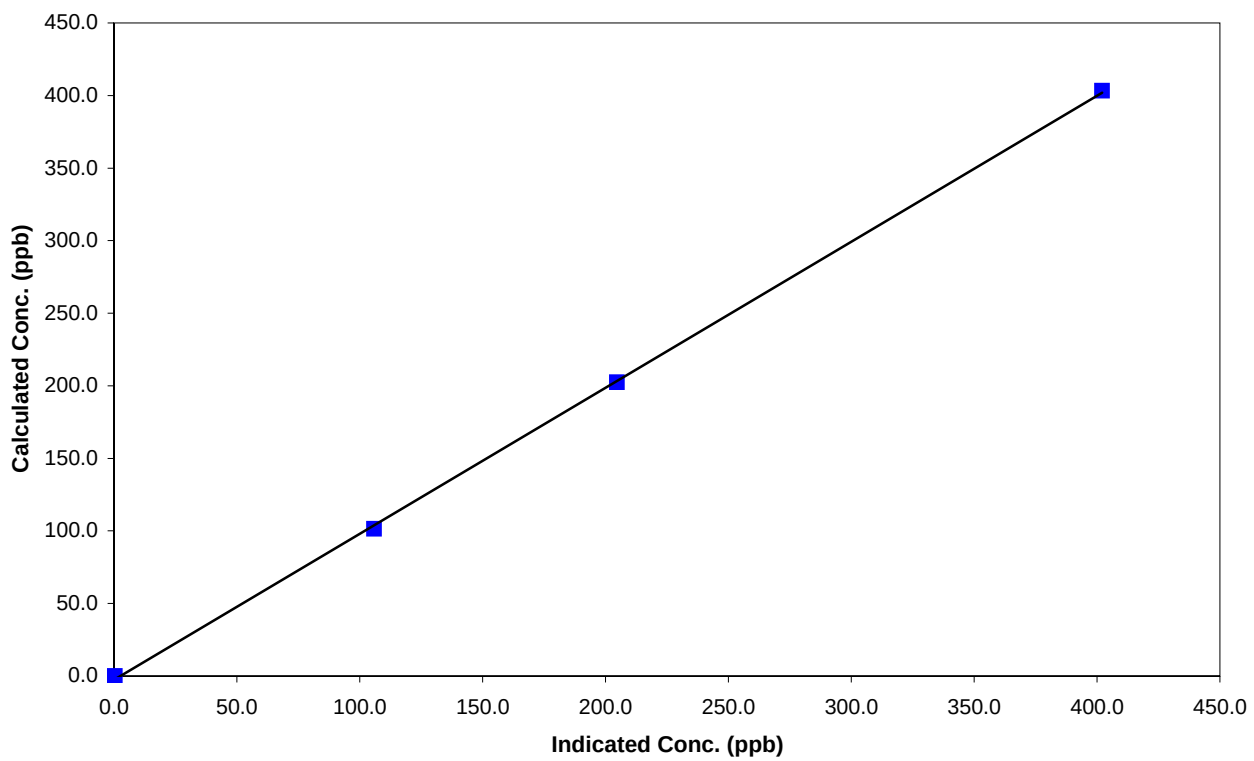
Station Information

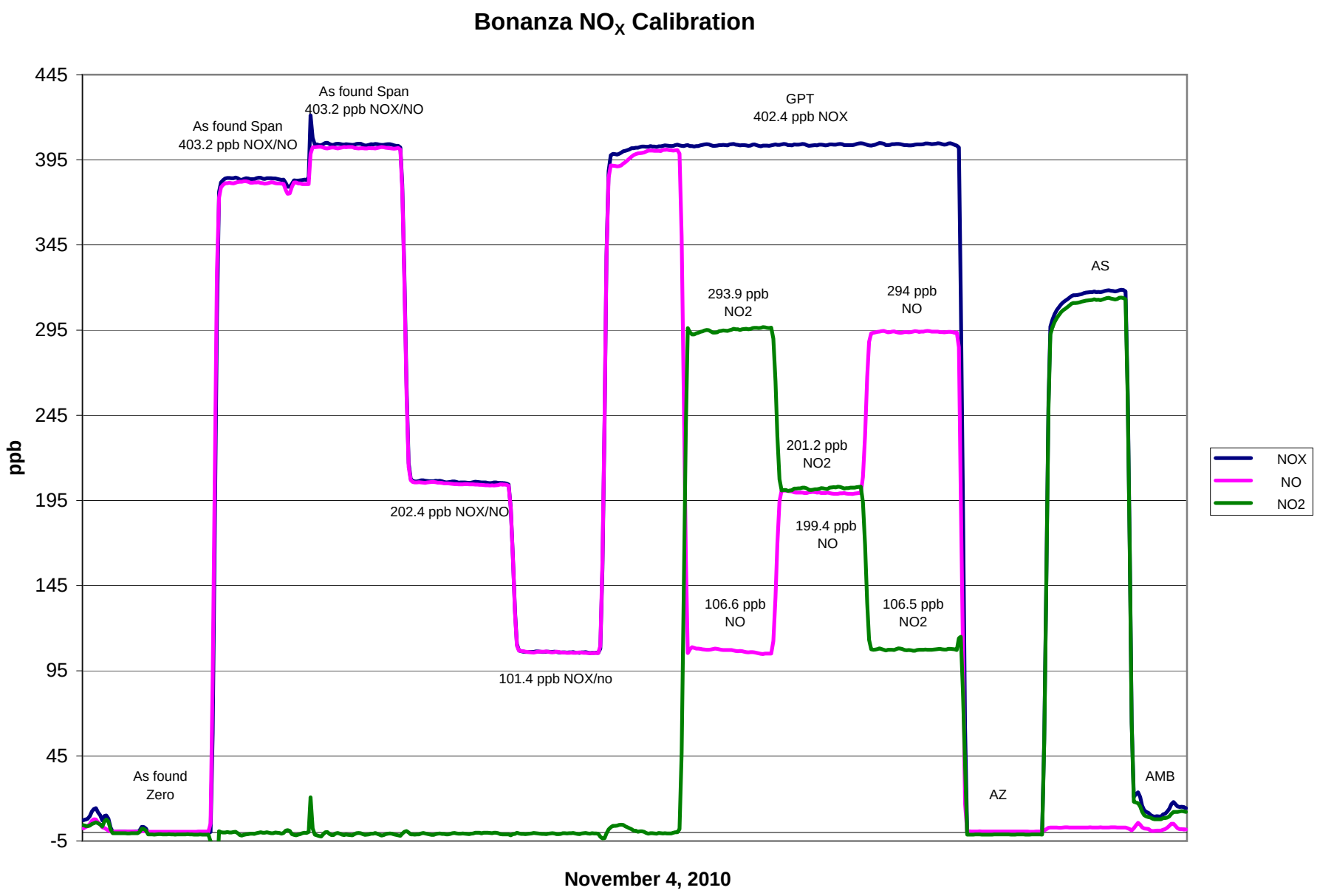
Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
403.2	402.1	1.0028	Correlation Coefficient	0.999852
202.4	204.7	0.9887		
101.4	105.8	0.9584	Slope	1.006704
			Intercept	-2.707827

NO Calibration Curve




Bonanza NOX Calibration
445
395
345
295
245
195
145
95
45
-5
ppb
As found Span
403.2 ppb NOX/NO
As found Span
403.2 ppb NOX/NO
GPT
402.4 ppb NOX
AS
293.9 ppb
NO2
294 ppb
NO
201.2 ppb
NO2
202.4 ppb NOX/NO
199.4 ppb
NO
106.6 ppb
NO
106.5 ppb
NO2
101.4 ppb NOX/no
As found
Zero
AZ
AMB
NOX
NO
NO2
November 4, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 26, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover Bonanza

Reason: **Routine** Installation Removal Other:

Start Time (MST)	12:35	End Time (MST)	16:00
Barometric Pressure	0.927 Atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
NO Cal Gas Conc	50.8 ppm	Cal Gas Expiry Date	April 6, 2012
NOx Cal Gas Conc	50.8 ppm	Cal Gas Serial #	SGAL 3245

DACS Information

DACS make	Focus AP1000	DACS serial No.	52662

Parameter		NO2	NOx	NO
Before	Data Slope	0.993603	1.000846	1.006704
	Data Offset	0.384701	-2.405754	-2.707827
After	Data Slope	0.995594	1.000458	1.006655
	Data Offset	0.303364	-2.510964	-2.725891
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.5	mV	4.4	mV
NOx bkgnd	5.9	mV	4.6	mV
NO coefficient	1.041		1.112	
NOx coefficient	0.998		1.007	
NO2 conv temp	323.4	Deg C	325.5	Deg C
PMT Temp	-3.2	Deg C	-3.1	Deg C
PMT Volt	-829.9	mV	-787.0	mV
R Cell Press	176.3	in Hg	158.1	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 26, 2010 Station Location: Rover Bonanza

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	-0.1	0.5	-1.1	N/A	N/A
1	5000	40.00	403.2	403.2	0.0	404.1	402.1	-0.9	0.9977	1.0027
2	5000	20.00	202.4	202.4	0.0	206.2	204.8	-0.4	0.9816	0.9880
3	5000	10.00	101.4	101.4	0.0	106.4	105.7	0.0	0.9526	0.9594
AFZ	5000	0.00	0.0	0.0	0.0	-0.1	0.5	-1.1	0.0000	0.0000
AFS	5000	40.00	403.2	403.2	0.0	404.1	402.1	-0.9	0.9977	1.0027
							Average Correction Factor		0.9773	0.9834

As Found Concentrations: NO_X= 401.8 NO= 398.9 As Found Percent Change NO_X= -0.3% NO= -1.1%

GPT Calibration Data

Dilution Flow 4988 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.5	0.5	0.0	-0.1	0.5	-1.1	N/A	N/A	N/A	N/A
NO point	402.1	402.1	0.0	404.1	402.1	-1.0	0.9951	1.0000	N/A	N/A
300	402.1	169.3	232.8	404.8	169.3	233.3	0.9933	1.0000	0.9981	100.2%
200	402.1	247.4	154.7	404.9	247.4	154.8	0.9932	1.0000	0.9989	100.1%
100	402.1	326.3	75.8	405.9	326.3	77.1	0.9907	1.0000	0.9834	101.7%
					Average Correction Factor		0.9924	1.0000	0.9935	100.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.4	-0.9	0.7	ppb	0.3	-0.8	0.7	ppb
Auto span	275.6	274.9	2.9	ppb	213.8	210.3	2.1	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

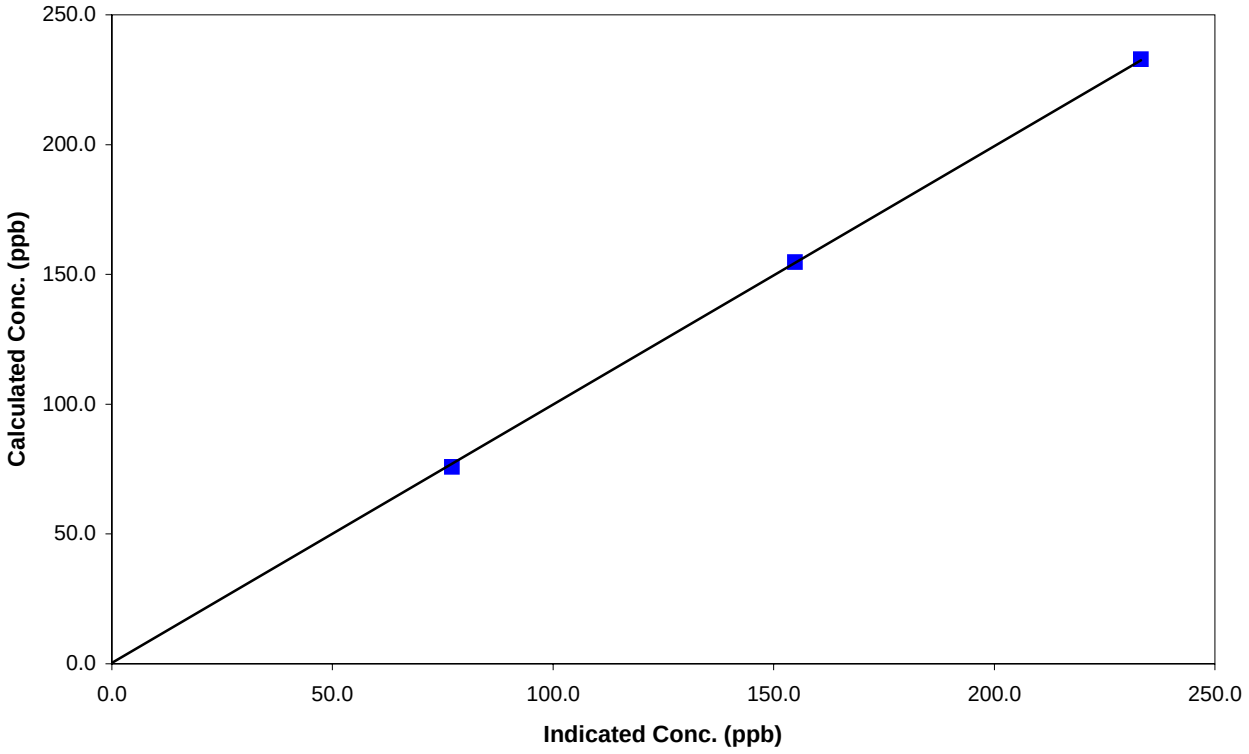
Station Information

Calibration Date	November 26, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover Bonanza
Start Time (MST)	12:35	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.1	N/A		
232.8	233.3	0.9981	Correlation Coefficient	0.999926
154.7	154.8	0.9989		
75.8	77.1	0.9834	Slope	0.995594
			Intercept	0.303364

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

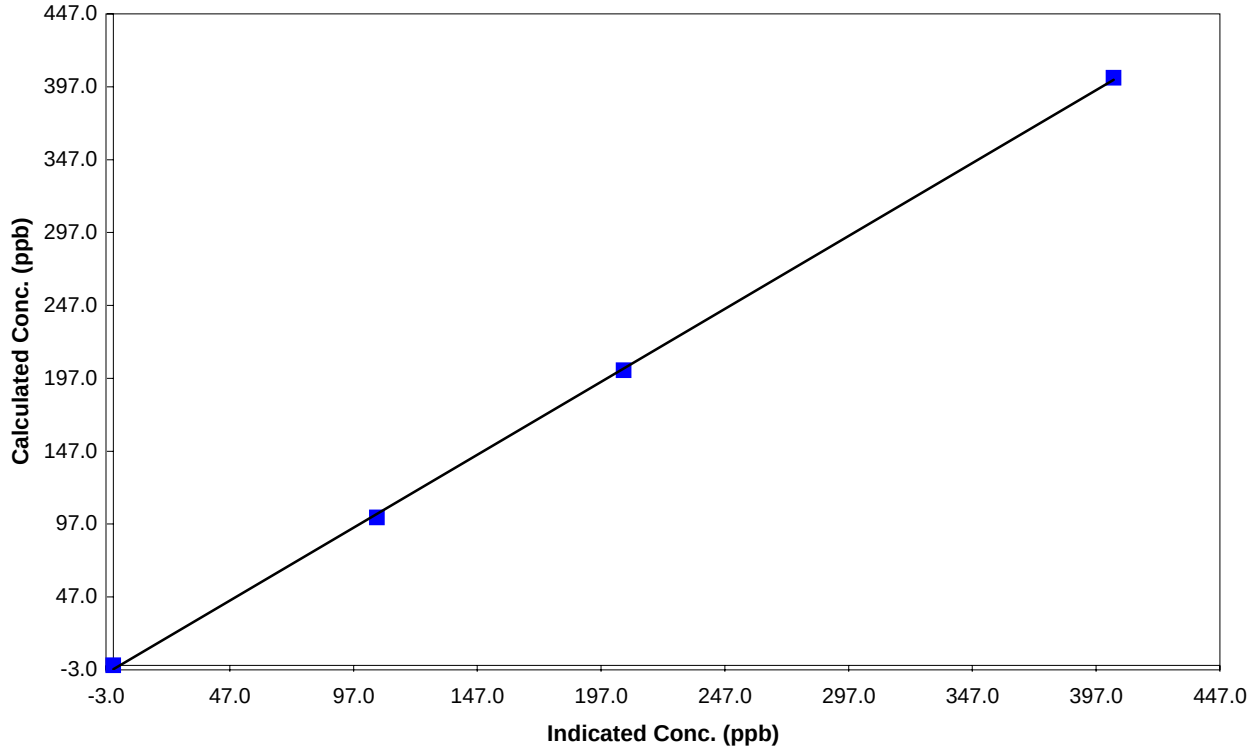
Station Information

Calibration Date	November 26, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover Bonanza
Start Time (MST)	12:35	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
403.2	404.1	0.9977	Correlation Coefficient	0.999806
202.4	206.2	0.9816		
101.4	106.4	0.9526	Slope	1.000458
			Intercept	-2.510964

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

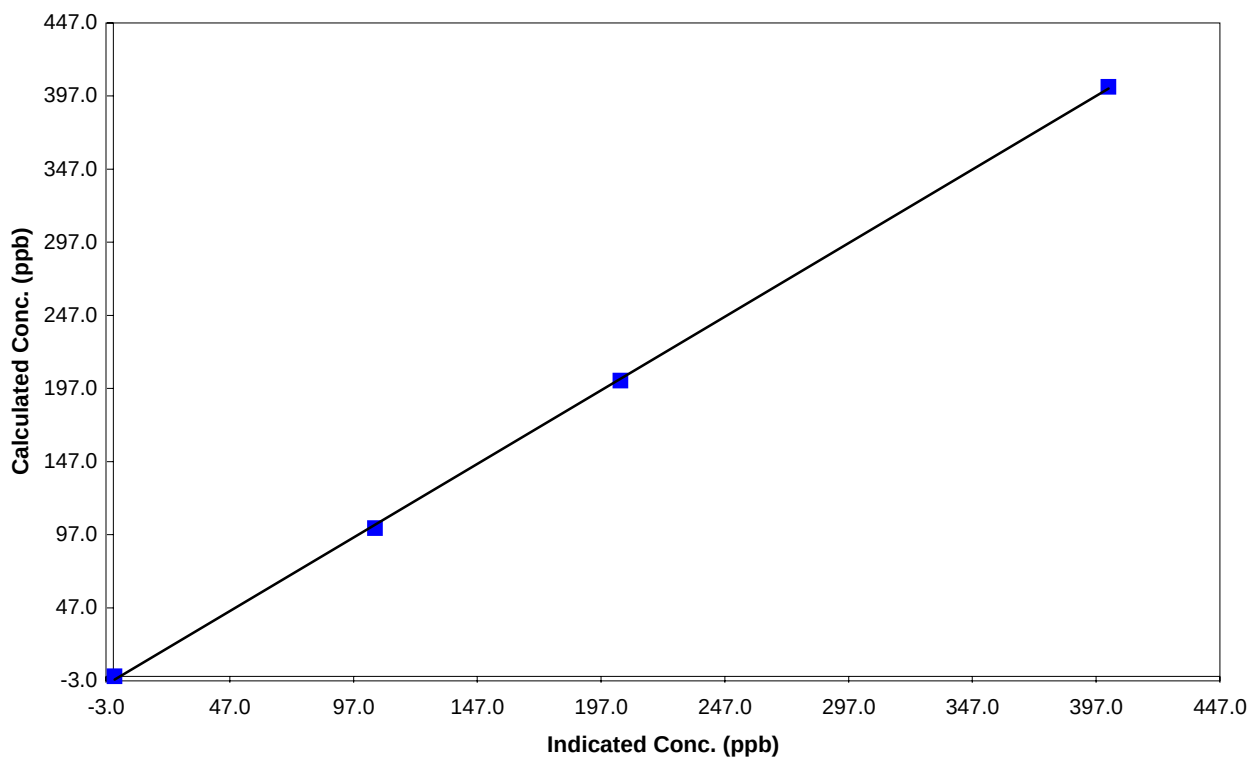
Station Information

Calibration Date	November 26, 2010	Previous Calibration	October 14, 2010
Station Number	9	Station Location	Rover Bonanza
Start Time (MST)	12:35	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

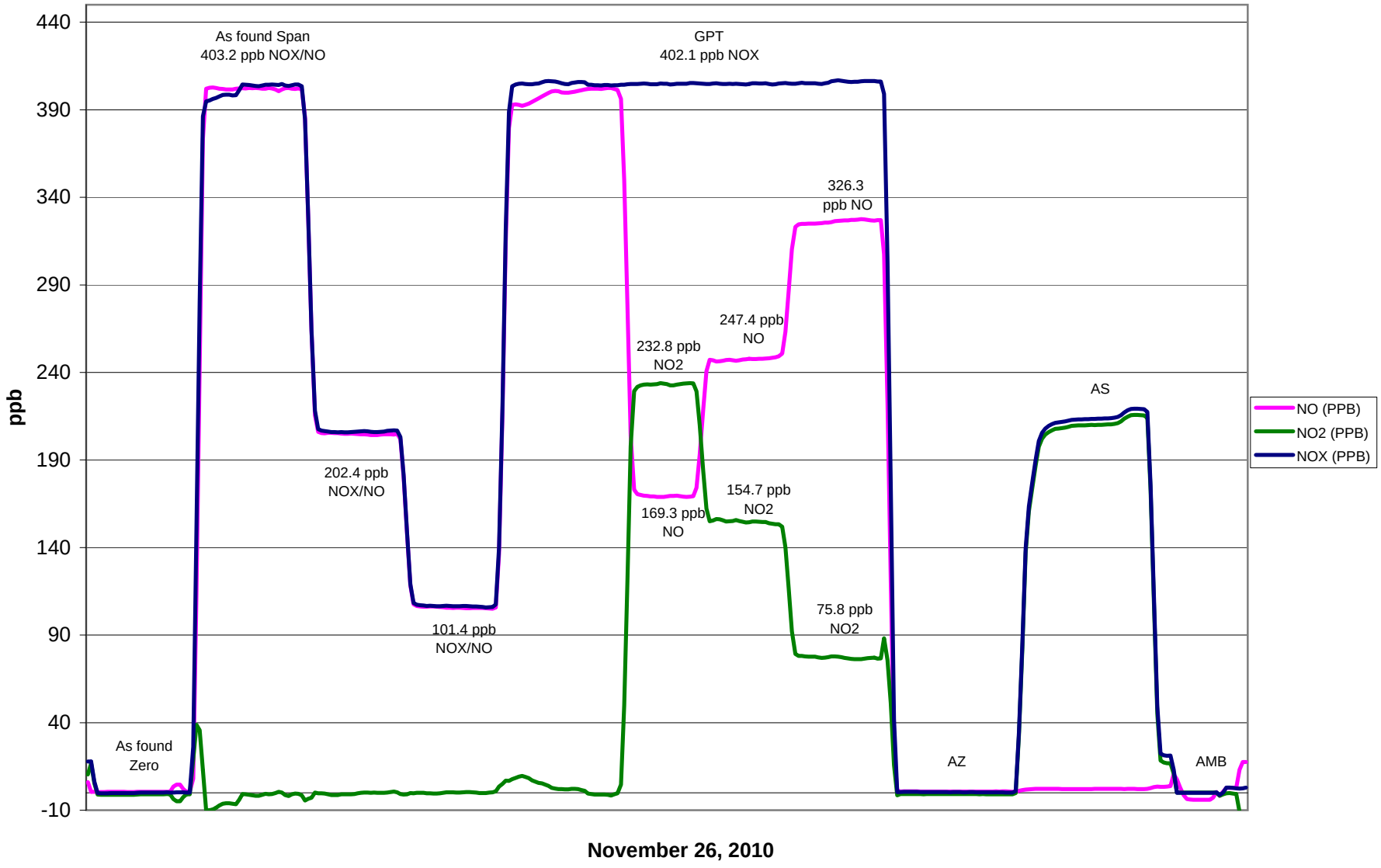
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
403.2	402.1	1.0027	Correlation Coefficient	0.999859
202.4	204.8	0.9880		
101.4	105.7	0.9594	Slope	1.006655
			Intercept	-2.725891

NO Calibration Curve



Bonanza NO_X Calibration



November 26, 2010

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 30, 2010	Previous Calibration	November 26, 2010
Station Number	9	Station Location	Rover - Bonanza

Reason: Routine Installation Removal Other: Maintenance

Start Time (MST)	11:00		End Time (MST)	13:40	
Barometric Pressure	0.927	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	50.8	ppm	Cal Gas Expiry Date	April 6, 2012	
NOx Cal Gas Conc	50.8	ppm	Cal Gas Serial #	SGAL 3245	

DACS Information

DACS make	Focus AP1000	DACS serial No.	52662

Parameter		NO2	NOx	NO
Before	Data Slope	0.995594	1.000458	1.006655
	Data Offset	0.303364	-2.510964	-2.725891
After	Data Slope	1.000502	0.989709	1.003313
	Data Offset	-0.002695	-0.727420	-0.578316
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	4.4	mV	4.4	mV
NOx bkgnd	4.6	mV	4.6	mV
NO coefficient	1.113		1.112	
NOx coefficient	1.011		1.007	
NO2 conv temp	325.6	Deg C	325.5	Deg C
PMT Temp	-2.7	Deg C	-3.1	Deg C
PMT Volt	-786.6	mV	-787.0	mV
R Cell Press	160.3	in Hg	158.1	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 30, 2010 Station Location: Rover - Bonanza

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	5000	0.00	0.0	0.0	0.0	0.7	0.6	-0.2	N/A	N/A
1	5000	40.00	403.2	403.2	0.0	408.1	402.4	2.6	0.9879	1.0019
2										
3										
AFZ	5000	0.00	0.0	0.0	0.0	0.7	0.6	-0.2	0.0000	0.0000
AFS	5000	40.00	403.2	403.2	0.0	408.1	402.4	2.6	0.9879	1.0019
							Average Correction Factor		0.9879	1.0019

As Found Concentrations: NO_X= 404.9 NO= 399.1 As Found Percent Change NO_X= 0.4% NO= -1.0%

GPT Calibration Data

Dilution Flow 4988 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.6	0.6	0.0	0.7	0.6	-0.2	N/A	N/A	N/A	N/A
NO point	402.4	402.4	0.0	408.1	402.4	2.6	0.9861	1.0000	N/A	N/A
300	402.4	174.6	227.9	404.3	174.6	227.6	0.9953	1.0000	1.0013	99.9%
200	402.4	253.3	149.1	405.0	253.3	149.1	0.9935	1.0000	0.9996	100.0%
100	402.4	325.8	76.7	405.2	325.8	76.9	0.9932	1.0000	0.9968	100.3%
					Average Correction Factor		0.9940	1.0000	0.9992	100.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.4	-0.9	0.7	ppb	0.1	-1.0	0.6	ppb
Auto span	275.6	274.9	2.9	ppb	209.2	205.4	2.6	ppb

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **NO_2**

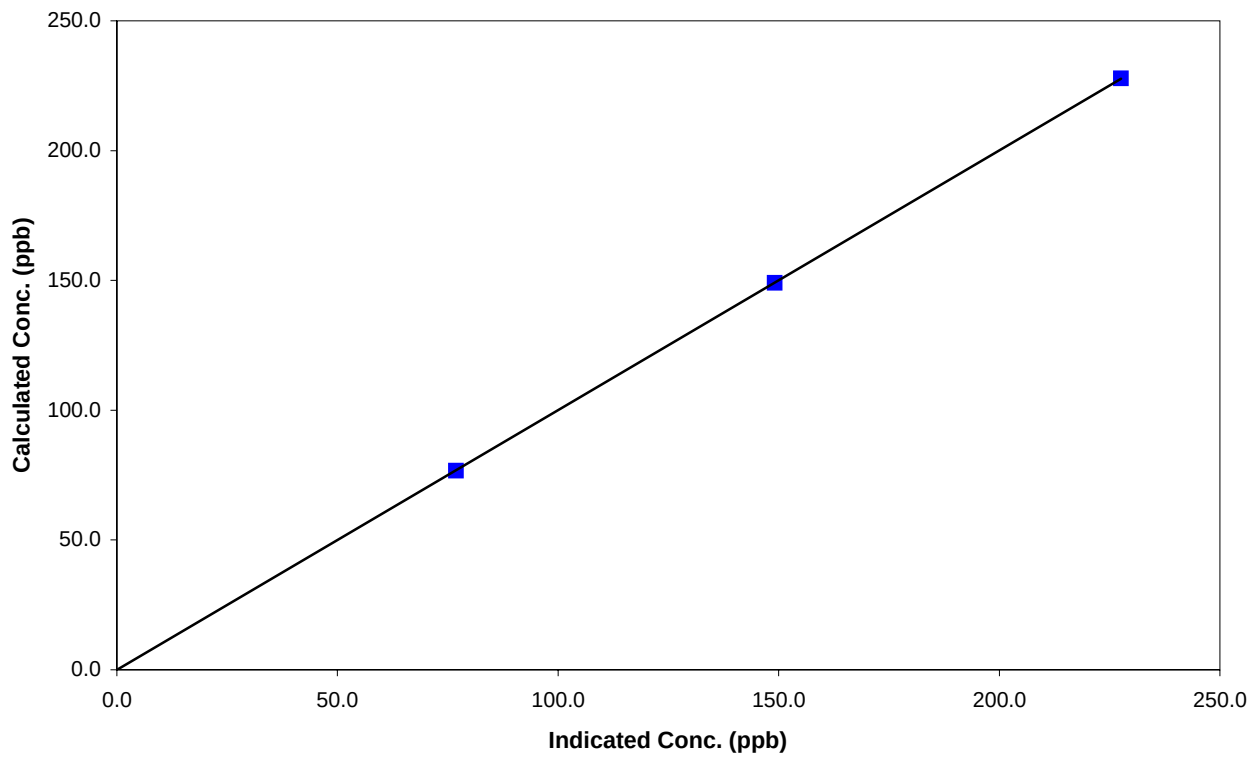
Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 30, 2010	Previous Calibration	November 26, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
227.9	227.6	1.0013	Correlation Coefficient	0.999994
149.1	149.1	0.9996		
76.7	76.9	0.9968	Slope	1.000502
			Intercept	-0.002695



Calibration Summary

Parameter **NO_x**

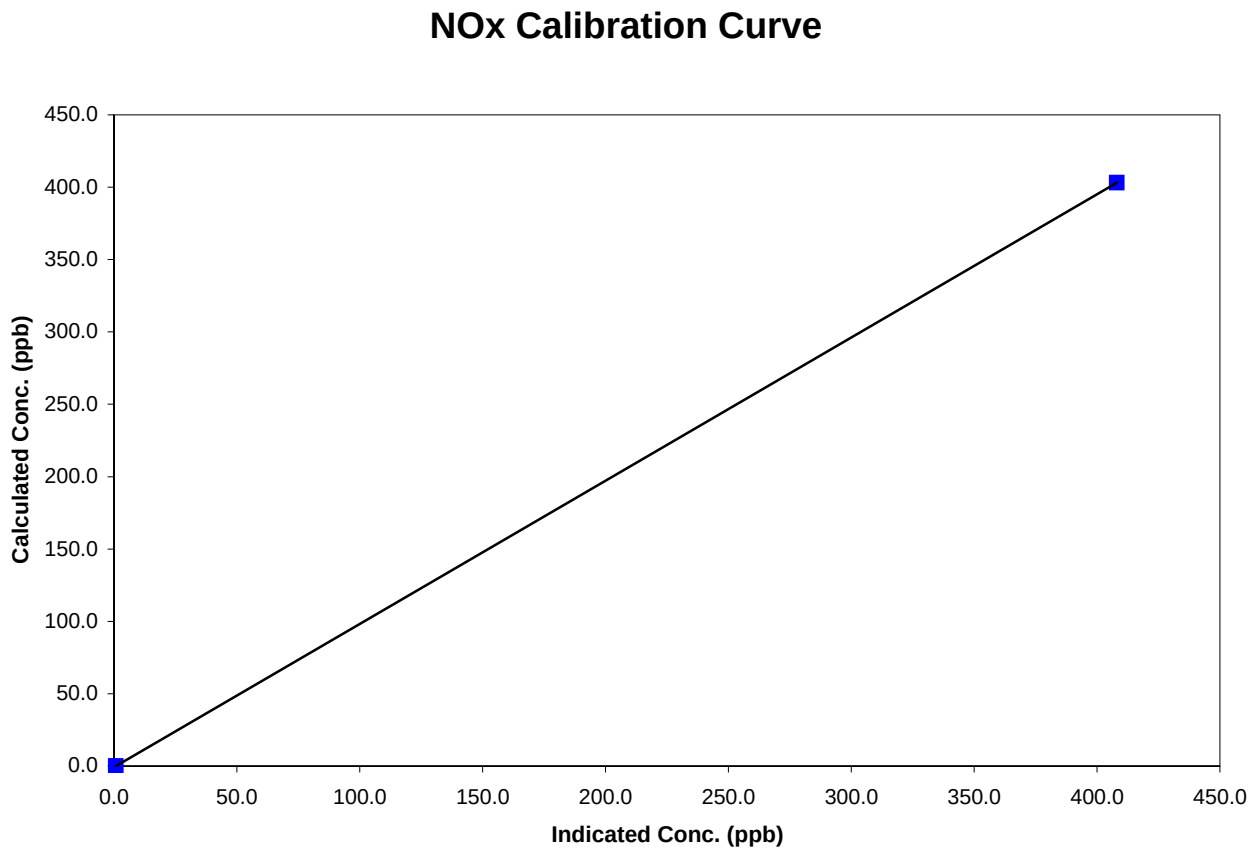
Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 30, 2010	Previous Calibration	November 26, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
403.2	408.1	0.9879	Correlation Coefficient	1.000000
			Slope	0.989709
			Intercept	-0.727420



Calibration Summary

Parameter **NO**

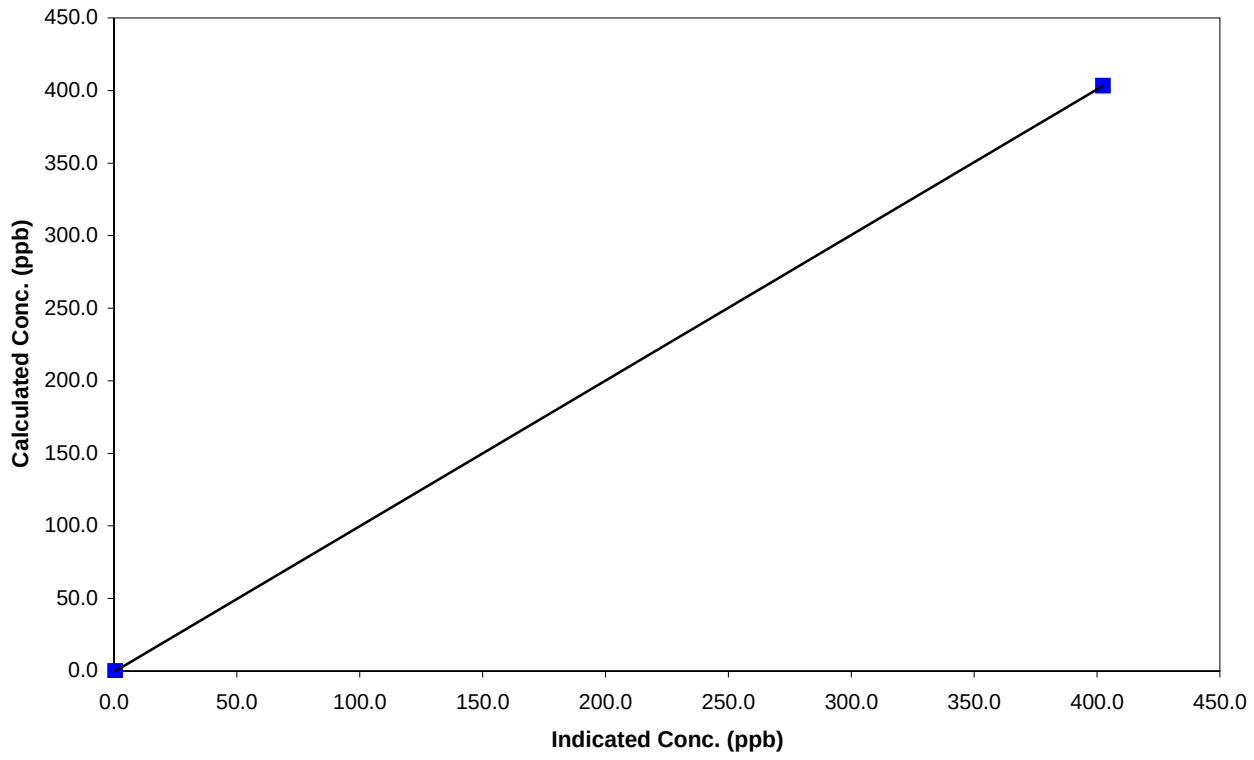
Air Monitoring Network **PASZA**

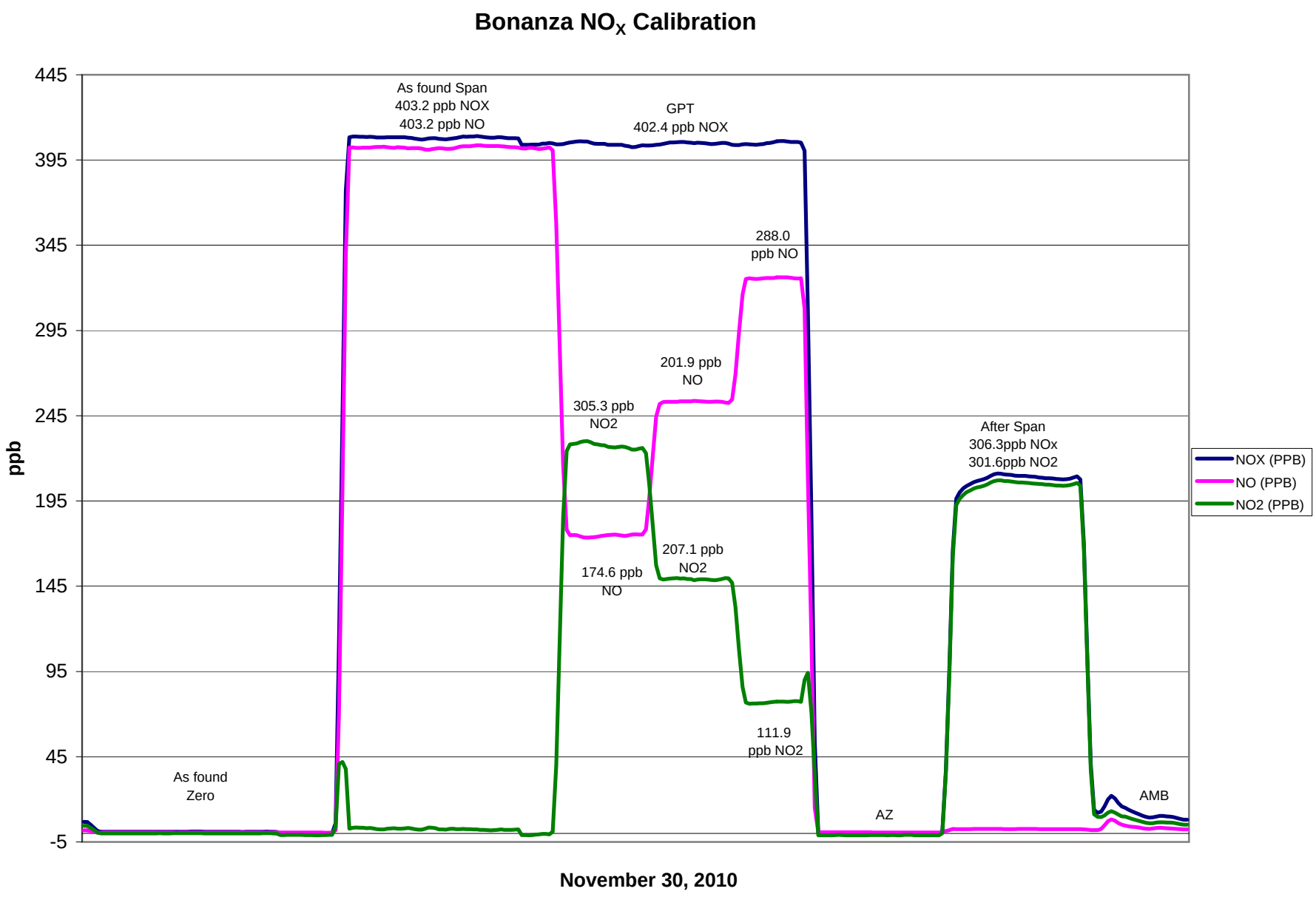
Station Information

Calibration Date	November 30, 2010	Previous Calibration	November 26, 2010
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:00	End Time (MST)	13:12
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A		
403.2	402.4	1.0019	Correlation Coefficient	1.000000
			Slope	1.003313
			Intercept	-0.578316




Bonanza NOX Calibration
445
395
345
295
245
195
145
95
45
-5
ppb
As found Span
403.2 ppb NOX
403.2 ppb NO
GPT
402.4 ppb NOX
288.0
ppb NO
201.9 ppb
NO
305.3 ppb
NO2
After Span
306.3ppb NOx
301.6ppb NO2
207.1 ppb
NO2
174.6 ppb
NO
111.9
ppb NO2
As found
Zero
AZ
AMB
NOX (PPB)
NO (PPB)
NO2 (PPB)
November 30, 2010

Calibration Report

FOCUS
AIR QUALITY MONITORING

Parameter **O3**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	12:00	Station Location	Rover - Bonanza
Reason: Routine	Install	Removal remove	Other:
Start Time (MST)	13:35	End Time (MST)	16:00
Barometric Pressure	0.927 atm	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0-5	DACS channel #	7
	Before		After
Calculated slope	0.996517	Calculated slope	0.997382
Calculated intercept	0.029500	Calculated intercept	-2.025872
Analyzer make	TEI Model 49C	Analyzer serial #	609-716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-13.8	ppb	-13.8	ppb
Span	1.460		1.460	
Cell A intensity	74249	Hz	74092	Hz
Cell B intensity	91194	Hz	91019	Hz
Pressure	691.60	in Hg	687.10	in Hg
CellA Flow	0.714	ccm	0.710	ccm
Cell B Flow	0.683	cmm	0.680	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	-0.8	N/A
4990	0.30	293.9	296.0	0.9930
4990	0.20	201.2	201.4	0.9987
4990	0.10	106.5	114.7	0.9286
4990	0.00	0.0	-0.8	As found zero
4990	0.30	293.9	296.0	As found span
			Average Correction Factor	0.9734

Calculated value of As Found Response: 313.7 ppm Percent Change of As Found: 6.7%

	before calibration		after calibration	
Auto zero	2.1	ppb	-3.1	ppb
Auto span	297.1	ppb	311.4	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **O3**

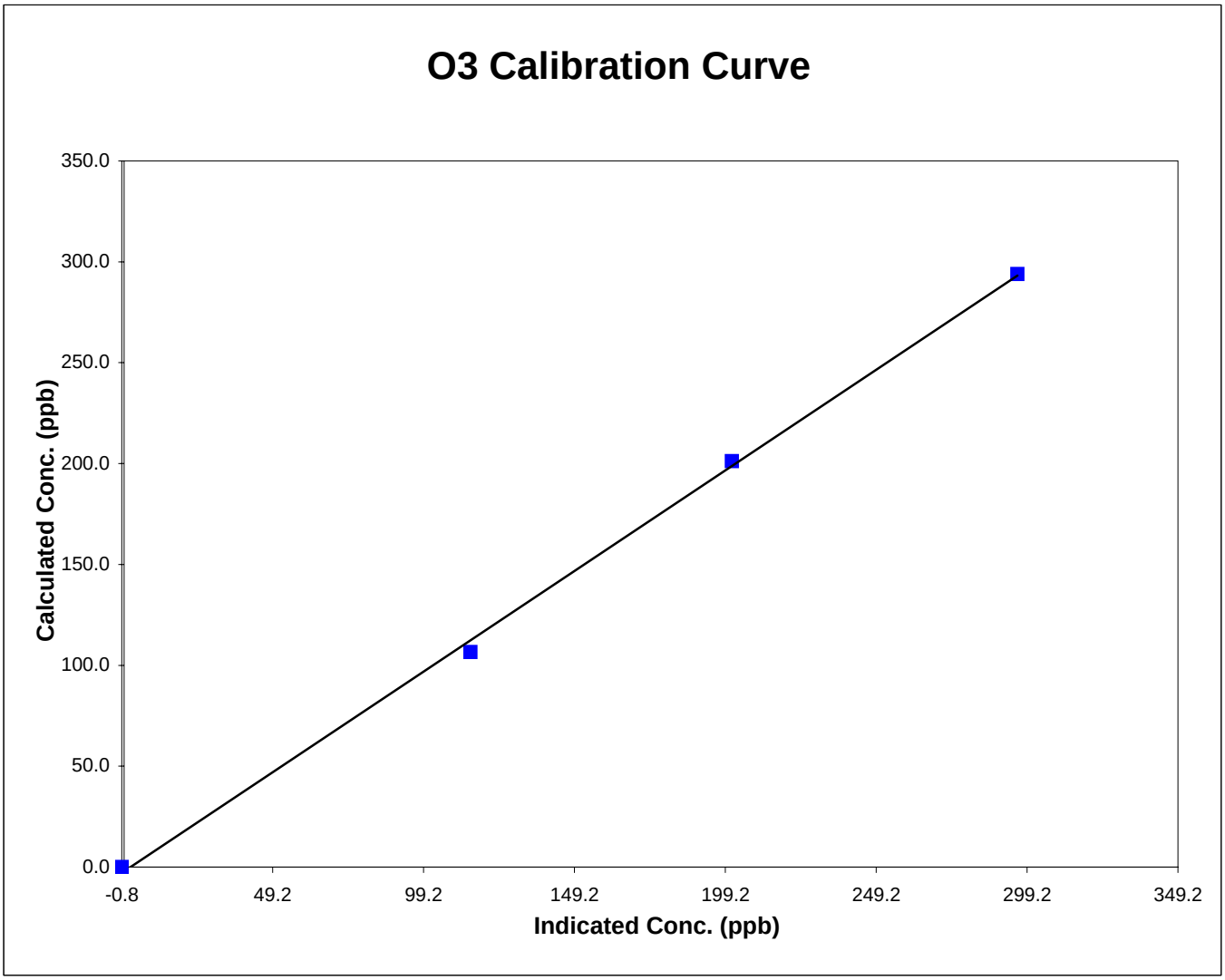
Air Monitoring Network **PASZA**

Station Information

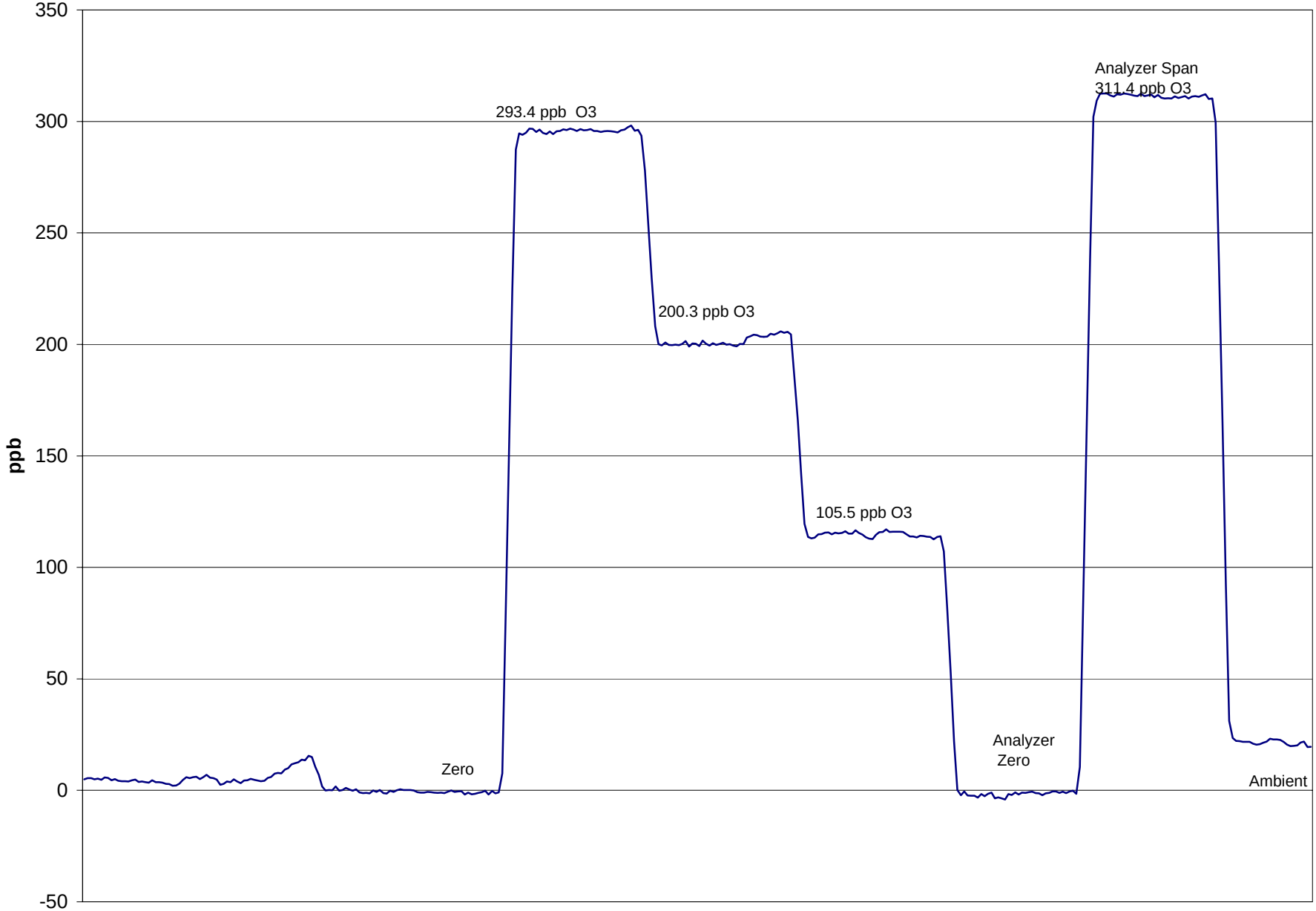
Calibration Date	November 4, 2010	Previous Calibration	October 14, 2010
Station Number	0.5	Station Location	Rover - Bonanza
Start Time (MST)	13:35	End Time (MST)	16:00
Analyzer make/model	TEI Model 49C	Analyzer serial #	609-716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.8	NA		
293.9	296.0	0.9930	Correlation Coefficient	0.998986
201.2	201.4	0.9987		
106.5	114.7	0.9286	Slope	0.997382
			Intercept	-2.025872



Bonanza O_3 Calibration



November 4, 2010

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **O3**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 30, 2010	Previous Calibration	N/A
Station Number	12:00	Station Location	Rover - Bonanza
Reason: Routine	Install	Removal remove	Other:
Start Time (MST)	11:30	End Time (MST)	14:53
Barometric Pressure	0.927 atm	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0-5	DACS channel #	7
	Before		After
Calculated slope	N/A	Calculated slope	1.002987
Calculated intercept	N/A	Calculated intercept	-0.774845
Analyzer make	TEI Model 49C	Analyzer serial #	49C-71577-369

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	N/A	ppb	0.5	ppb
Span	N/A		1.113	
Cell A intensity	N/A	Hz	87888	Hz
Cell B intensity	N/A	Hz	90910	Hz
Pressure	N/A	in Hg	686.50	in Hg
CellA Flow	N/A	ccm	0.778	ccm
Cell B Flow	N/A	cmm	0.690	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	-0.1	N/A
4990	0.30	227.9	226.7	1.0052
4990	0.20	149.1	151.1	0.9865
4990	0.10	76.7	77.6	0.9879
				As found zero
				As found span
			Average Correction Factor	0.9932

Calculated value of As Found Response: 226.2 ppm Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	N/A	ppb	-0.7	ppb
Auto span	N/A	ppb	141.4	ppb

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **O3**

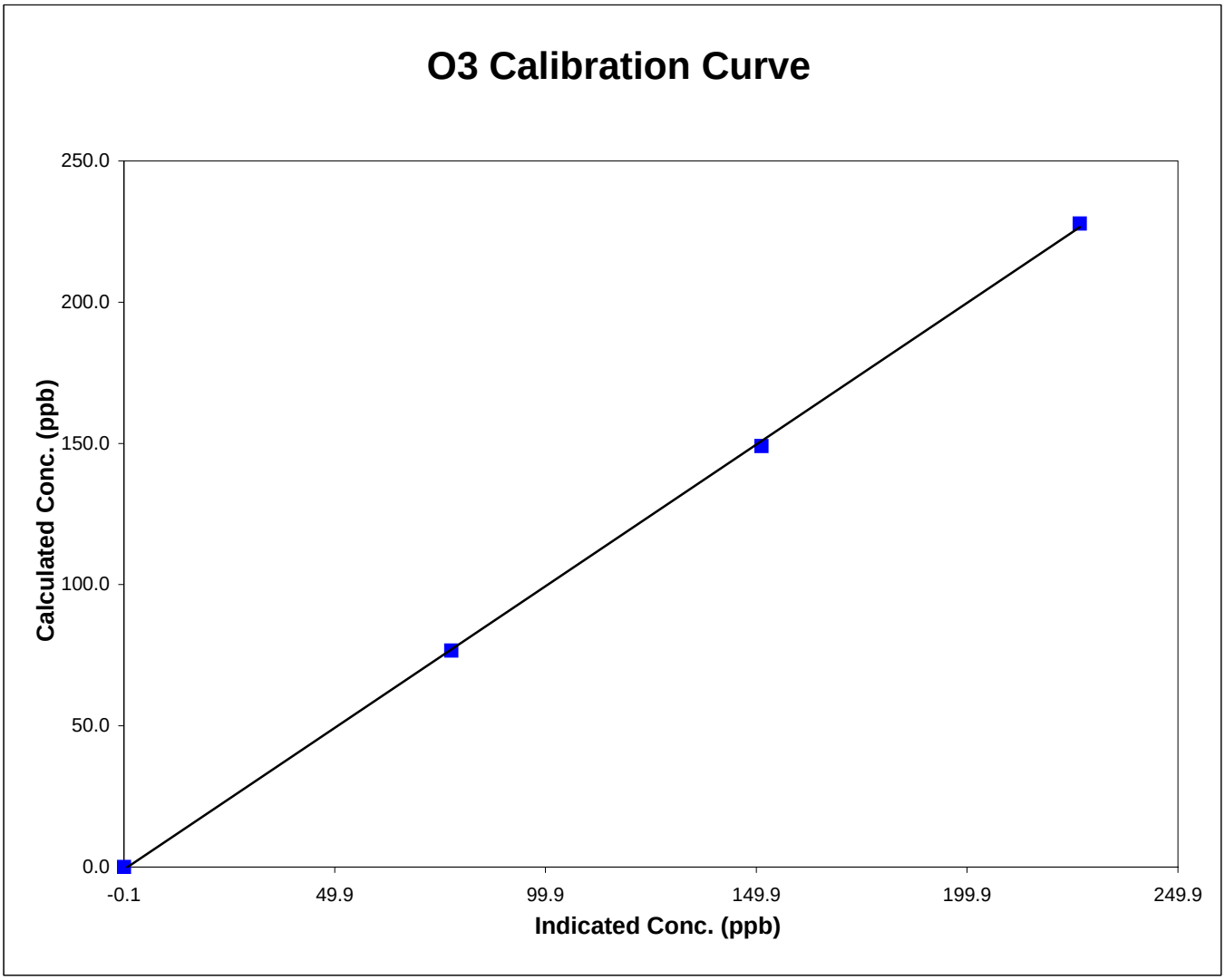
Air Monitoring Network **PASZA**

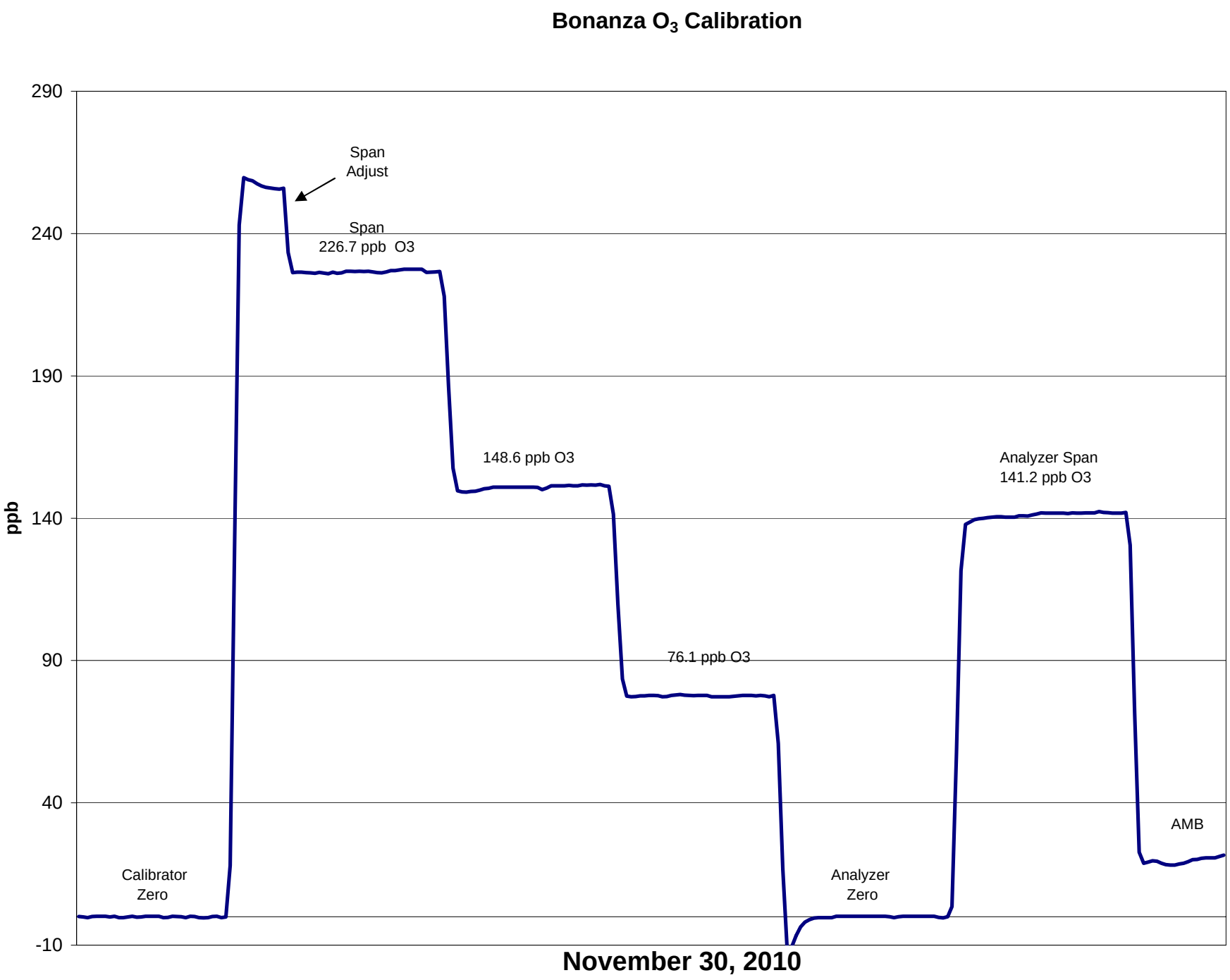
Station Information

Calibration Date	November 30, 2010	Previous Calibration	N/A
Station Number	0.5	Station Location	Rover - Bonanza
Start Time (MST)	11:30	End Time (MST)	14:53
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-71577-369

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
227.9	226.7	1.0052	Correlation Coefficient	0.999810
149.1	151.1	0.9865		
76.7	77.6	0.9879	Slope	1.002987
			Intercept	-0.774845




Bonanza O_3 Calibration
290
240
190
140
90
40
-10
ppb
Span
Adjust
Span
226.7 ppb O3
148.6 ppb O3
76.1 ppb O3
Analyzer Span
141.2 ppb O3
AMB
Calibrator
Zero
Analyzer
Zero
November 30, 2010

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 18, 2010	Previous Calibration	October 19, 2010
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:50	End Time (MST)	13:32
Barometric Pressure	702.00 mm	Station Temperature	14.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	51.5 ppm	Cal Gas Cert Date	7/23/2010
Gas Cert Reference	SGAL3245		
DACS make	Focus AP1000	DACS serial No.	45274
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.022552	Calculated slope	1.020288
Calculated intercept	-0.795289	Calculated intercept	-0.426231
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	24.7		26.5	
Coefficient	0.851		0.851	
UV Lamp Voltage	948	LPM	945	LPM
Chamber Temp	43.7	V	45	V
Perm Gas Temp	36.2	C	35.9	C
Pressure	625.8	in Hg	619.3	in Hg
Sample Flow	0.473	LPM	0.471	LPM
Lamp Intensity	48624	Hz	48227	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4991	0.00	0.0	-0.3	N/A
4989	39.85	408.1	400.2	1.0197
4989	19.89	204.5	200.8	1.0186
4989	9.94	102.4	101.7	1.0065
4989	0.00	0.0	1.5	As found zero
4989	39.88	408.4	400.2	As found span
			Average Correction Factor	1.0149

Calculated value of As Found Response: 406.916 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	153.1	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **SO2**

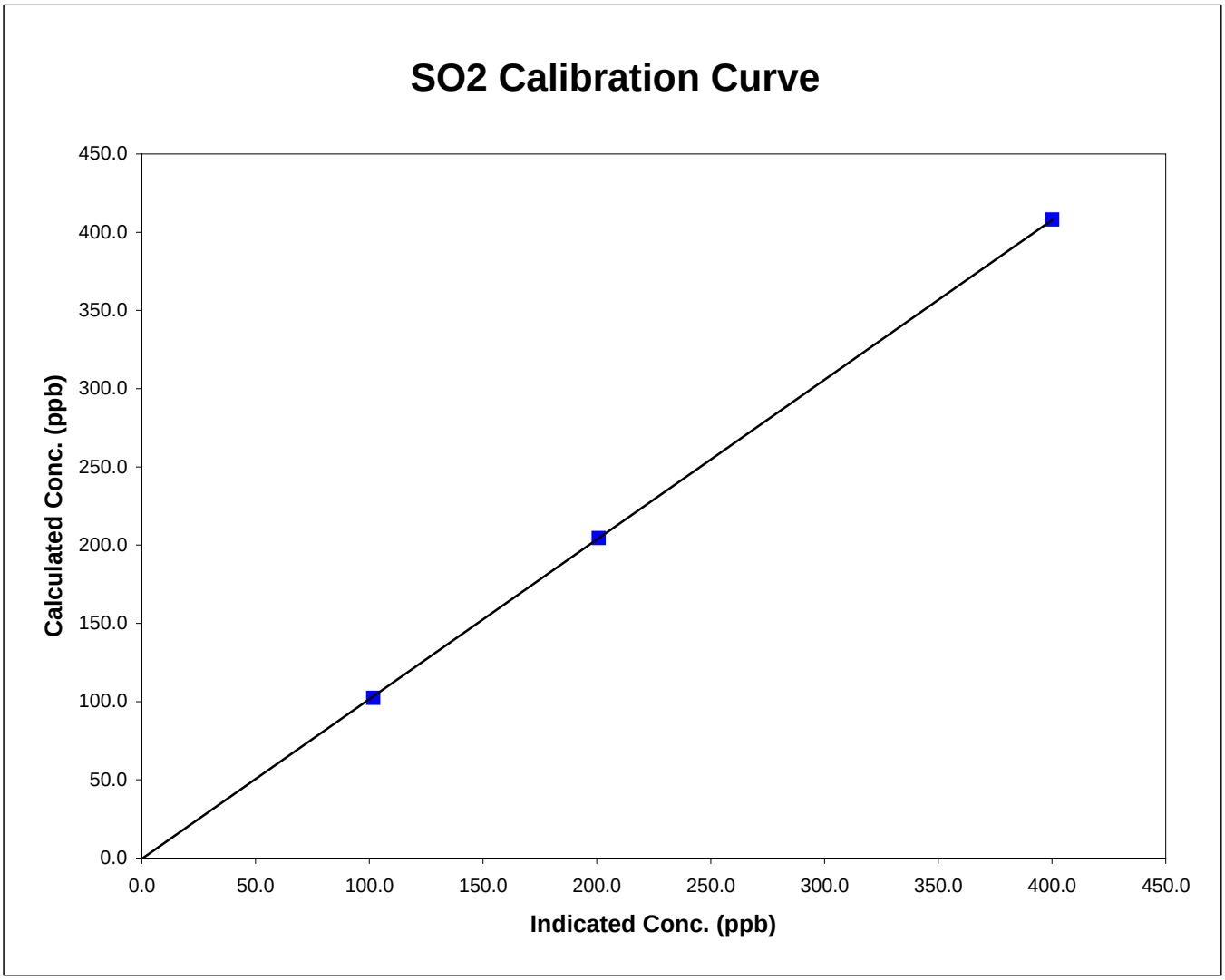
Air Monitoring Network **PASZA**

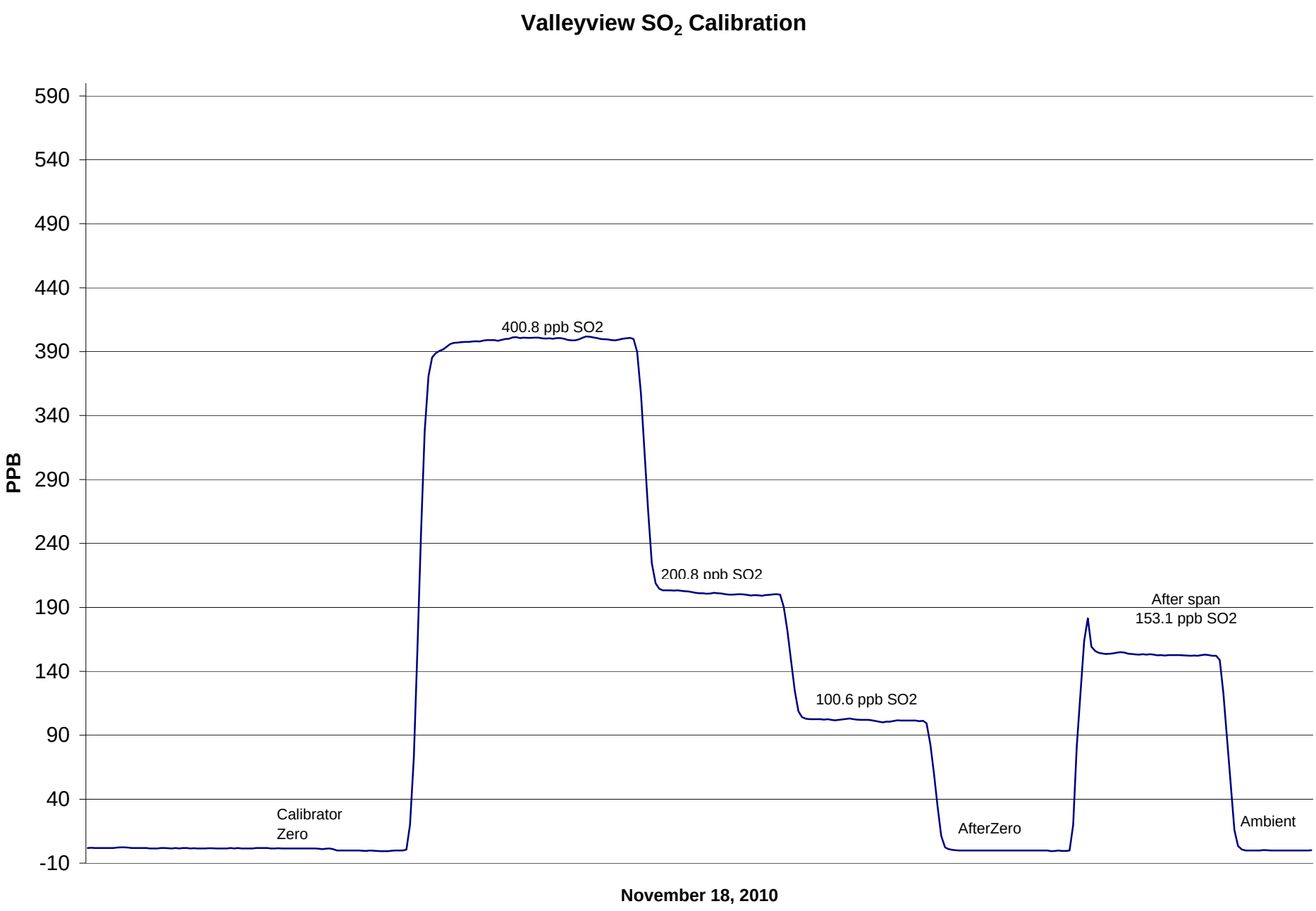
Station Information

Calibration Date	November 18, 2010	Previous Calibration	October 19, 2010
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:50	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
408.1	400.2	1.0197	Correlation Coefficient	0.999984
204.5	200.8	1.0186		
102.4	101.7	1.0065	Slope	1.020288
			Intercept	-0.426231




Valleyview SO_2 Calibration
590
540
490
440
390
340
290
240
190
140
90
40
-10
PPB
400.8 ppb SO2
200.8 ppb SO2
100.6 ppb SO2
After span
153.1 ppb SO2
Calibrator
Zero
AfterZero
Ambient
November 18, 2010

Calibration Report

Parameter **H2S**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 18, 2010	Previous Calibration	October 19, 2010
Station Number	5	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:20	End Time (MST)	15:40
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	5.15 ppm	Cal Gas Expiry Date	4/4/2009
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 10 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.029825	Calculated slope	0.998393
Calculated intercept	-0.647700	Calculated intercept	0.285576
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	4.8	ppb	4.7	ppb
Coefficient	1.056		1.056	
Lamp Voltage	786	V	785	V
Chamber Temp	44.8	c	44.3	c
Perm Oven Temp	45.01	c	44.3	c
Pressure	662.70	mm Hg	656.30	mm Hg
Sample Flow	.283	ccm	.287	ccm
Lamp Intensity	90.0	%	91.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4989	79.75	81.0	81.1	0.9997
4989	39.83	40.8	40.2	1.0136
4989	9.93	10.2	9.8	1.0428
4989	0.00	0.0	0.4	As found zero
4989	79.75	81.0	75.8	As found span
			Average Correction Factor	1.0187

Calculated value of As Found Response: 77.06 ppm Percent Change of As Found: 4.9%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	70.6	ppm	58.7	ppm

Notes:

Calibration Performed By: Courtney Thompson

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PASZA**

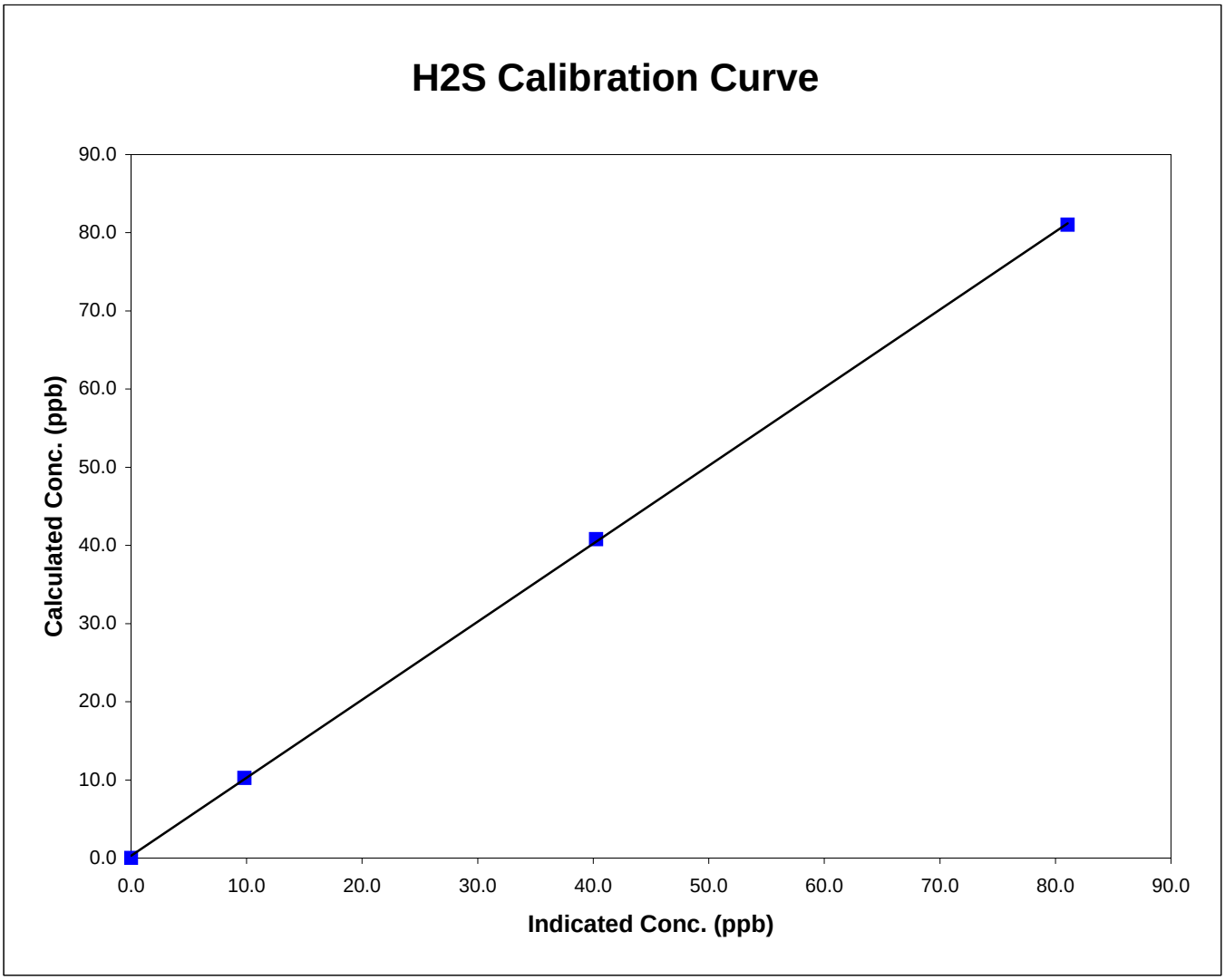
FOCUS AIR QUALITY MONITORING

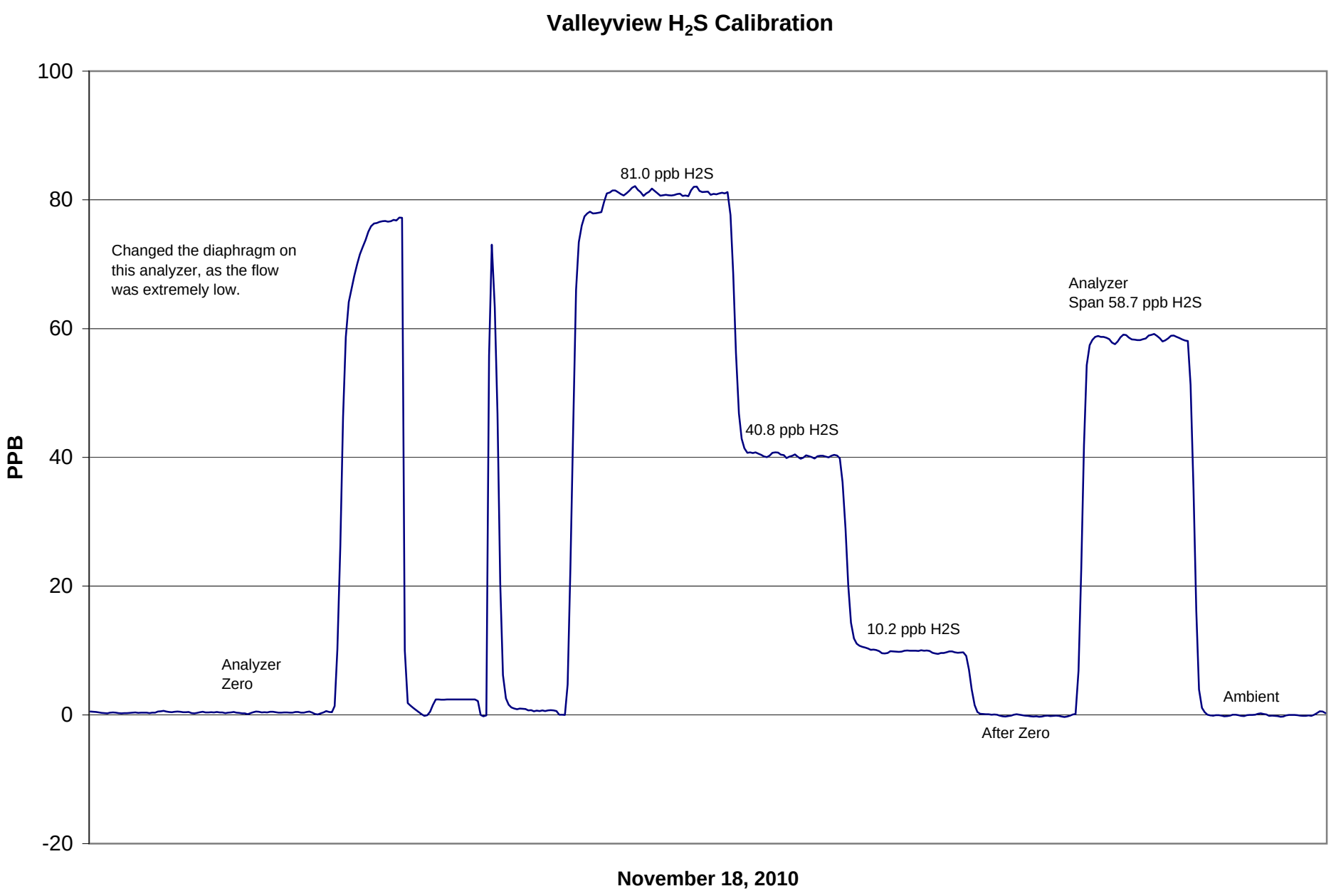
Station Information

Calibration Date	November 18, 2010	Previous Calibration	October 19, 2010
Station Number	5	Station Location	Valleyview
Start Time (MST)	12:20	End Time (MST)	15:40
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
81.0	81.1	0.9997	Correlation Coefficient	0.999937
40.8	40.2	1.0136		
10.2	9.8	1.0428	Slope	0.998393
			Intercept	0.285576




Valleyview H_2S Calibration
100
80
60
40
20
0
-20
PPB
Changed the diaphragm on this analyzer, as the flow was extremely low.
Analyzer Zero
81.0 ppb H2S
40.8 ppb H2S
10.2 ppb H2S
After Zero
Analyzer Span 58.7 ppb H2S
Ambient
November 18, 2010